

was outlined and the bordering strata were found to be of lower Cretaceous age instead of Palaeozoic, as previously supposed.

Mr. H. Ries, while continuing his study of the clay and shale deposits of British Columbia, made examinations along the Columbia River Valley from Golden southward and from Revelstoke northward. In both districts, deposits of clay or shale, which can be utilized for common and pressed brick and perhaps for other classes of products, were found. A study was also made of the shales of the Nanaimo series on the east coast of Vancouver Island.

Mr. S. J. Schofield made an examination of the part of East Kootenay lying south of the Crown's Nest branch of the C.P.R. and between Kootenay River and Kootenay Lake. The mineral-bearing belt, containing the St. Eugene, Aurora and Society Girl ore deposits, was outlined southwards to the international boundary.

Mr. D. B. Dowling visited a number of the principal coal areas both in Eastern and Western Canada in order to obtain the necessary information to enable him to make a review of the coal fields of Canada.

Mr. W. W. Leach made a detailed examination of an area about Blairmore, which includes practically all the producing mines of the bituminous coal fields on the Alberta side of Crow's Nest Pass.

Mr. J. D. Mackenzie made an examination of the district lying immediately south of the Blairmore map-area. This area includes most of the foothills between the valleys of south fork of Oldman River and Pincher Creek. In it lies the southward extension of the coal areas of the Blairmore district.

Mr. E. S. Moore carried on an exploration in the Pre-Cambrian region lying east of the southern part of Lake Winnipeg, partly in Manitoba and partly in Ontario.

Mr. C. R. Stauffer completed his studies in connection with the Devonian strata of the peninsula of Southwestern Ontario. This work is of importance in connection with the general problems of the extensive oil and natural gas districts of Ontario. This field of endeavour was further supplemented by the work of Mr. M. Y. Williams, who devoted some time to the study of the Hamilton formation (Devonian) of Lambton County. He was, however, mainly engaged in stratigraphical and palaeontological studies on the Silurian sections of Manitoulin Island.

Mr. W. A. Johnston continued topographical and geological field work in the neighbourhood of Lake Simcoe. An area of about 1,200 square miles surrounding Lake Simcoe has now been accurately mapped on a scale of one mile to one inch with 20-foot contours.

Mr. W. H. Collins continued and almost completed a detailed geological reconnaissance of the Onaping map-area lying to the north of the Sudbury district.

Mr. M. E. Wilson made a geological reconnaissance in northwestern Quebec of a belt of country extending from Lake Kipawa via Grand Lake Victoria to the headwaters of Nottaway River.

Mr. H. C. Cooke explored the headwaters of Broadback River between Lake Evans and Lake Mistassini, in northern Quebec.

Mr. R. Harvie examined a geological section across Brome County, Quebec, from Lake Memphremagog westward to Sweetsburg in order to obtain more knowledge concerning the general relations of the older formations. It was hoped, among other results, to ascertain what connection, if any, existed between the copper deposits of Missisquoi Valley and those of the belt found in Sutton, Brome, Stukely and Ely Townships to

the west. The subject is of present importance, owing to a renewal of interest in copper mining throughout the general district.

Mr. J. Keele made an examination of various clay and shale deposits in the Province of Quebec and in part of New Brunswick. The principal part of the season was spent in the region adjacent to the St. Lawrence River between Montreal and the City of Quebec, a field containing one of the largest markets for clay wares in Canada.

Mr. W. A. Bell completed his work on the Joggins section of Nova Scotia. This is one of the standard Carboniferous sections of the Maritime Provinces and the elucidation of the various problems there presented are of direct economic value in connection with the development of various coal areas in the region.

Mr. E. R. Faribault continued the geological mapping of the gold-bearing series of the southern portion of Queens and Lunenburg Counties, Nova Scotia.

Besides the various field parties listed above, engaged in field work of direct economic importance, others took up various problems whose scientific importance and indirect economic value can hardly be over-estimated. In Nova Scotia, Mr. J. E. Hyde engaged in palaeontological work on the Carboniferous strata, paying particular attention to the Sydney field. Mr. W. J. Wright studied various problems in connection with the eruptive rocks of the gold field of southwestern Nova Scotia in an attempt to add to the sum of knowledge relating to the origin of the gold-bearing and tungsten-bearing ores.

In Western Canada, Mr. E. M. Kindle engaged in the study of the Palaeozoic section of northern Manitoba. Mr. A. McLean carried on palaeontological work in southern Manitoba. Mr. C. H. Sternberg made collections of vertebrate fossils from the Edmonton formation in the vicinity of Munson, Alberta. Mr. C. D. Walcott engaged in work on the Cambrian system of the Yellowhead Pass.

The field work performed during 1912 by the Topographical Division of the Geological Survey, was as follows:

Mr. K. S. Chipman commenced topographical work in the Windermere district. The map, when completed, will include the Columbia Valley from Dutch Creek to Number Two Creek and the country to the west for a distance of about 25 miles.

Mr. W. E. Lawson engaged in work in Lillooet district. The topographical map will include a greater part of Bridge River district and the headwaters of Eldorado Creek.

Mr. D. A. Nichols prepared a detailed topographical map of the iron ranges on Texada Island, and also a map of a portion of the northern end of the island.

Mr. B. R. Mackay completed the mapping of the Blairmore area. This map includes all the towns between Coleman and Burmis on the Crow's Nest branch of the C.P.R. and covers the areas in which the principal coal mines are operating.

In New Brunswick, Mr. A. C. T. Sheppard completed a sheet in the neighbourhood of St. John City. This map includes the City of St. John and the Towns of Rothesay and Lorneville. The map will be published on a scale of about 1 mile to 1 inch, with 20-foot contour intervals.

The various topographical maps, when completed, will indicate all cultural features such as roads, railways and buildings, in black; all lakes, streams, etc., in blue; while relief will be shown by contour lines in brown. The maps can be used for a variety of purposes and should prove very useful.