

Sink holes characterize the outcrop. Acid and basic gneisses of sedimentary origin intruded by granite and later pegmatites are found in the Sherritt-Gordon area, Manitoba. Elongated sulphide lenses are developed, according to Wright, in fracture zones along a drag fold in acid gneiss close to basic gneiss. The ore consists of coarse-grained pyrrhotite, chalcopyrite, sphalerite and marcasite, associated with quartz, amphibole, chlorite, garnet and biotite.

In the Cochrane, Timiskaming and Algoma Districts, Ontario, studied by Gledhill and Hurst, irregularly-shaped large and small replacement bodies of sulphides carrying one or more of the minerals, chalcopyrite, sphalerite, galena, gold and silver, occur in schistose areas in Precambrian rocks. Other mineralized schistose zones traversed by quartz veins containing some or all of the above-mentioned minerals were observed by Gledhill and Hurst.

In the Woman River-Ridout area, described by Emmons and Thomson, the early Precambrian iron formation, which in the past was examined as a possible source of iron ore and iron pyrites, was examined with regard to its associated deposits of lead, zinc and copper sulphides. These occur in veins that are in general parallel to the bedding of the iron formation, with minor cross veins.

The zinc-lead fields of Gaspé were re-studied by Alcock. The veins of sphalerite and galena in a quartz-carbonate gangue occur in Lower Devonian argillites, limestones and tuffs and are believed to be genetically related to deep-seated intrusive rocks of the area.

Legg described the geology of the Sterling mine as consisting of irregular bodies of intimately mixed sulphides, sphalerite, galena, chalcopyrite and pyrite deposited along lines of weakness in a carbonated shear zone in Precambrian rhyolites.

Oil and Gas.—Thos. G. Madgwick outlined the oil and gas situation in the Prairie Provinces,⁵ sketching the geology, formations and productive horizons encountered in wells, some outstanding problems in the development of the fields and in bringing wells into production, and gave a summary of operations to the end of 1928.

In the "Transactions of the Royal Society of Canada", R. C. Wallace and G. C. McCartney call attention to the importance of heavy minerals in sand horizons in Manitoba and western Saskatchewan. The progress of examination of these sands to date has shown that there is a likelihood, through detailed work over the whole field, of identifying horizons by means of the heavy mineral content of drill-hole samples.

W. P. Campbell⁵ described waters encountered in deep drilling and points out the necessity of having the water-flow into the well shut off effectively as the well is being drilled. A high chloride content is generally a character of deep water. Sulphates and bicarbonates with little chloride indicate surface or shallow waters. Concentration increases with depth.

The stratigraphy of Eastend area, Cypress hills and a portion of southern Saskatchewan¹ was examined by F. H. McLearn. In the Eastend area there do not appear to be any important structures favourable for oil and gas accumulation, and examination has not yet reached the point in southern Saskatchewan where predictions as to oil and gas possibilities may be made.

A preliminary report upon the geology and oil explorations in Cape Breton island was made by the Eastern Gulf Oil Company in the Nova Scotia Report