

A study of the genesis of the ilmenite deposits of St. Urbain, Charlevoix county, Quebec,<sup>7</sup> is made by Joseph L. Gillson. The author concludes that the ores were formed by replacement in the already solid anorthosite and were deposited from solutions, either gaseous or liquid, which soaked through the rock.

**Lead.**—A report is made by H. C. Gunning upon the H.P.H. group, Nahwitti lake, Vancouver island, British Columbia.<sup>1</sup> Mineralization of the replacement type occurs in limestone. The most important and common type consists of galena and sphalerite; in some places small quantities of pyrite, pyrrhotite, and chalcopyrite are present.

The Clearwater River and Foghorn Creek map-area, Kamloops district, British Columbia,<sup>1</sup> is described by J. F. Walker as being underlain by argillaceous, arenaceous, and calcareous sediments, showing varying degrees of metamorphism, and intrusive granodiorite, granite, greenstone, and numerous granitic dykes and sills. The sedimentary rocks are of Precambrian, Palæozoic, and Tertiary age; the intrusive rocks appear to be Mesozoic. Most of the mineral deposits occur in sedimentary rocks and consist of small quartz-sphalerite-galena veins and small replacements and disseminations of sphalerite and galena in quartzose sediments. There is one occurrence of chalcopyrite with pyrite in the bedded quartz veins and disseminations in the adjacent country rock. Fluorspar and celestite occur as disseminated replacements in the contact phase of an aplitic intrusion.

**Manganese.**—A compilation of available information upon manganese in Canada<sup>1</sup> is presented by George Hanson. The known manganese deposits of the Dominion are confined chiefly to the Maritime Provinces and to British Columbia. In other parts of Canada there are only a few small non-commercial bog deposits.

**Molybdenite.**—The Annual Report of the Quebec Bureau of Mines contains a report by J. E. Hawley upon molybdenite deposits of Lacorne township, Abitibi county, Quebec. The bed rocks of the area consist of pre-Keewatin sedimentary and hornblende schist, Keewatin volcanics, and pre-Cobalt intrusives. The molybdenite occurs in quartzose to feldspathic veins or pegmatites.

**Nickel.**—A preliminary report upon the geology of Great Slave Lake-Coppermine River area, Northwest Territories,<sup>1</sup> is provided by C. H. Stockwell. Precambrian volcanics, sediments and intrusives are found in the area. A nickel-cobalt deposit east of François river and other mineralization found in the area are described.

A paper upon the origin of the Frood ore deposit, Sudbury district, Ontario,<sup>7</sup> is submitted by B. C. Freeman. Mr. Freeman concludes that the Frood ore is not in norite but in reorganized greywacke gabbro and greenstone, that the rocks were altered by ore-depositing agencies, which caused the formation of hornblende, biotite, quartz and andesine, that the four main ore minerals—chalcopyrite, cubanite, pyrrhotite and pentlandite—were formed essentially simultaneously and that the ore body is a magmatic deposit, but it is not wholly the result of crystallization from the melt.

**Oil and Gas.**—The oil possibilities of Soda creek and Quesnel, Cariboo district, British Columbia,<sup>1</sup> are described by W. E. Cockfield. The chief interest from the point of view of petroleum and natural gas production lies in the rocks of the Fraser River formation of Tertiary age. As all the evidence points to a freshwater origin for the rocks of this formation and as there is no evidence of closely associated marine sediments which may have served as a source of oil, it must therefore be