Geological Survey of Canada

ROBERT BELL, Sc. D., (Canab), LLD., M.D., F.R.S., I.S.O., ACTING DIRECTOR

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Geological Map of the CHIBOUGAMAU REGION QUEBEC

To accompany the Report of

A.P. LOW, B.Sc.

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Scale, 4 miles to 1 inch = 1/253 440

10 5 0 10

ECONOMIC MINERALS

GOLD.—A large mass of gold-bearing quartz, has been discovered on Point Mountain island, near the contact of diabase and gabbro.

Quarts stringers are common in the diabase rocks but gold has only been found in the one mentioned above. As that mass of quartz lies close to the contact of the diabase and gabbro, similar bodies may be found in other localities under the same conditions.

COPPER.—No large deposits of copper are has been found in this region to the present time, but in a number of places good signs of ore are seen in diabase schists near the contacts of these rocks with the gabbro. This occurrence is somewhat similar to that of the copper and nickel ores of the Sudbury region, and careful search in the green schists along these contacts may be rewarded by valuable discoveries.

LEAD and ZINC.—Masses of galena and zinc blende were discovered in 1905 in the limestones of Mistassini at the narrows close to the Hudson's Bay Post.

IRON.—Ore in sufficient quantity to constitute workable deposits have not been found in this region. The only locality of promise being in the lower Huronian rocks to the southwest of Mistassini lake, this area being indicated by blocks of lean jaspery ore, carried by ice from that locality.

ASBESTOS.—All the areas of serpentine discovered in the region up to the present time contain veins of asbestos and in many places these veins are of sufficient size and number to form valuable deposits as soon as a railway is built to the shores of Chibougamau lake.

GEOLOGICAL NOTES

UPPER HURONIAN.—The limestones and cherty dolomites found in the northeast part of the map, and which occupy the basin of Mistassini lake to the northeast, bear a close resemblance to the rocks of lake Superior named Upper Huronian. Being without fossils their classification here as such is only due to this resemblance.

They rest unconformably upon the Lower Huronian rocks of Wakonichi, and they are not penetrated by the diabase associated with the Lower Huronian rocks.

LOWER HURONIAN.—The rocks that occupy at least three-fourths of the area of the map are classed under this heading. They include the bedded conglomerate, quartzite and arkose found about Wakonichi lake, in association with green diabase and diabase-schist. These rocks bear a close resemblance to the rocks of Timiskaming lake, which contain the valuable small veins of silver, cobalt and nickel. No such veins have as yet been discovered in the Chibougamau region.

The diabase and diabase-schist are wide-spread in distribution in this region. When unaltered by pressure they lie in nearly horizontal sheets, but when rendered schistose by pressure the bedding appears to be nearly vertical. Both varieties of the rock are largely decomposed to chlorite. These rocks often contain considerable quantities of sulphides especially near their contact with the gabbro. Small stringers of quarts are also common, but they are not well mineralized except close to the same contacts.

LAURENTIAN.—Small areas of crystalline gneisses and schists, resembling those of the Grenville Series of the Laurentian, are seen in a number of places. There is no evidence tha they are not more highly altered portions of the diabase and granite rocks of the region, and are only classed as Laurentian on account of their highly crystalline condition.

HORNBLENDE GRANITE.—Two or more areas of hornblende granite are found in the region. The largest extends irregularly westward, from the east side of Chibougamau lake, to beyond the western limit of the map. These granites are newer than the Lower Huronian and also newer than the gabbro which cuts the Lower Huronian.

BIOTITE GRANITE.—A large area of nearly white biotite granite occurs in the eastern part of Obatogamau lake; similar granite is found in the southern parts of Eau Jaune and Presqu'ile lakes, these exposures being probably a western extension of the Obatogamau area. This granite appears to belong to an irruption later than that of the hornblende granite and it is consequently the newest rock in the region.

GABBRO and ANORTHOSITE.—A large area of basic igneous rocks extends westward from the shores of Chibougamau lake almost to Asinitchibastal lake, while a smaller area lies to the north of Opemiska and Mikwasach lakes. These rocks are usually composed largely of light-coloured plagioclase feldspars, with varying amounts of pyroxene, hornblende and biotite. When sheared and decomposed they pass into talc and allied schists. These rocks are important as the mineralizing agent of the diabase, many of the best mineral indications have been found close to the contact of the gabbro and diabase.

SERPENTINE.—Serpentine holding veins of good asbestos is found in two or three long bands about the shores of McKenzie bay, of Chibougamau lake. These serpentines appear to be filling ancient vents, from which the Lower Huronian diabase, or an older diabase escaped from the interior of the earth.

Explanation of Colours & Signs

- Upper Huronian.
- Lower Huronian, mostly diabase and diabase schist with conglomerate and arkose.
- Laurentian, gneiss, etc.
- Hornblende-granite and gneiss.
- Biotite-granite.
- Gabbro and anorthosite.
- Serpentine.
- Strike. Glacial striæ.
- Gold. Iron.
- Copper. Asbestos.
- 1152' Heights according to H.O'Sullivan, in feet above sea-level.

C.O. Senécal, B.A. Sc., Geographer & Chief Draughtsman.

J. A. Sc. Draughtsman.

918. Geological Map of Chibougamou region. Scale 4 miles 1

No. 918

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