



Tumshaming Series.—This series of sedimentary rocks is well exposed to the south of Kanagami station, where it occurs in beds which are highly tilted. These rocks have been traced to the westward as far as Kanagami lake.

Post-Tumshaming Intrusions.—In this group are included lamprophyre, felspar-porphry, syenite and granite. A wide angle lamprophyre dike intrudes the Tumshaming conglomerate to the south of Kanagami station. On lot 4, con. V, Malsenville, a lamprophyre contains fragments of granite, syenite and gneiss, forming a pseudo-conglomerate. The matrix, however, is igneous. This peculiar occurrence of lamprophyre has been observed near Kirkland lake and at Cobalt.

A mass of medium-grained hornblende granite occurs in south-west Hwy. A reddish syenite outcrops in the east part of Hwy, being part of the large area of syenite in Otto township. The syenite is occasionally gneissoid near the contact with the Koo-waite. In the vicinity of Winnie lake there is a red hornblende granite which changes to a syenite farther north. A much smaller mass of quartz-hornblende syenite can be seen in the north central part of Malsenville.

Quartz-felspar porphyry dikes occur near the syenite and may be epiphyse from the syenite. The syenite contains numerous veins of white quartz.

Felspar-Porphry.—Dikes of red and grey porphyry up to 100 feet in width are found in the Koo-waite. Under the microscope the rock shows phenocrysts of acid plagioclase, with a few of quartz and occasionally hornblende. The ground-mass is usually fine-grained, consisting of felspar, quartz, etc. These dikes frequently contain white quartz and carbonate veins similar to the dikes around Kirkland lake. Quartz veins containing visible gold interest the felspar porphyry on lot 4, con. V, Malsenville.

Cobalt Series.—This series contains the latest sedimentary rocks of the area occurring as remnants which have escaped erosion. Rocks of this series were observed just northwest of Kanagami station, and have been traced westward to Kanagami lake. A section, showing conglomerate, greywacke, quartzite and upper-conglomerate, is to be seen in a hill 100 feet high overlooking the railway on the west shore of lower Twin lake. The conglomerate at Kanagami station lies directly on elliptical gneiss. On the east shore of Kanagami lake there is a local unconformity in the Cobalt series. Fragments of the slate-like greywacke of a lower formation are enclosed in a conglomerate overlying the greywacke.

Diabase.—Narrow dikes of fresh diabase intrude all the above mentioned rocks.

Economic Geology.

Gold.—Numerous small quartz veins, some of which are auriferous, occur in this area in rocks which are older than the Cobalt series, while most of the veins are in the Koo-waite greenstone. Visible gold was noted at two locations in Malsenville township, and has also been reported in a number of veins which have been prospected along the railway to the north of Scotchman. A number of samples of vein material were taken for assay and low values in gold were usually obtained. A number of pits and shafts have been sunk in previous years, but in 1913 very little work was being done.

The Dase Copper Mining Company was prospecting lot 5, con. V, Malsenville, to the east of Wolf lake, and had opened (in the amygdaloidal basalt) three parallel quartz and cobalt gold-bearing veins which strike northwest and southeast. A shaft being sunk on one of the veins has reached a depth of 80 feet. On the same lot to the southeast, quartz veins in reddish felspar-porphry had been stripped for 400 feet. The porphyry has been greatly broken up and there is a breccia structure to the veins. Some visible gold was observed at several points.

In September, 1913, a narrow quartz vein, averaging less than six inches in width, was discovered on lot 6, con. V, Malsenville, just south of Kapakita creek. There are a number of showings of gold along the strike of the vein which has been stripped for 150 feet. The wall rock is greenstone, which is quite massive, with little evidence of alteration along the walls of the vein.

Lead and Zinc.—Narrow calcite veins, carrying some galena and sphalerite, occur in the greenstone on the west shore of Wewegmick lake. To the south of Wolf lake are several quartz calcite veins carrying similar minerals. One of these veins on claim H.R. 800 (Dan Smith claim) has been traced for 200 feet, showing a width in places of 16 inches. A shaft has been sunk 50 feet and several tons of lead-zinc ore have been piled up. The vein consists of quartz along the wall with a central filling of calcite, galena and sphalerite.

Pyrites.—On lot 7, con. III, Malsenville, is an iron formation band which has been greatly fractured and impregnated with pyrite, pyrrhotite and a little chalcopyrite. A sample of pyrrhotite gave a trace of nickel on analysis. The rocks are much rusted, and the quantity of iron pyrites suggests that this locality is worthy of prospecting for the mineral, which is used in the manufacture of sulphuric acid.

This sheet joins Map 27-21a (Muskog Lake and Scotchman Gold Area)