HEAZLEWOODITE FROM MILES RIDGE, YUKON TERRITORY

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The mineral heazlewoodite, Ni_3S_2, has been found, so far, in a very few localities. Specimens from the type locality in Tasmania have been described by Peacock (1947) and Ramdohr (1950). Ramdohr (1950) also mentions traces of a mineral which he considers to be heazlewoodite in josephinite from Oregon. No description of this mineral from a Canadian locality could be found in the literature.

During summer work in 1953, the writer collected a small specimen of a mineral, then considered to be pentlandite, near the top of Miles Ridge, about 10 miles east of the Alaska-Yukon boundary and 2 miles west of the Alaska Highway bridge across the White River. Mr. W. G. Smitheringale, who studied a polished section of the specimen, drew his attention to an unknown mineral with a peculiar anisotropism, which the writer tentatively identified as heazlewoodite on the basis of its polarization colors and associations. The identification was checked by etching and microchemical tests with later *x*-ray confirmation by Dr. R. M. Thompson.

Heazlewoodite, in polished section, is pale yellow with a granular texture. Individual grains reach usually $\frac{1}{2}$ mm. or less, the largest one being about 2 mm. long. It has a good polish, a hardness of C, and is strongly anistropic with typical polarization colors lilac to green.

The mineral gave the following etch reactions: $HgCl_2$ stains brown; $FeCl_3$, KOH stain faintly brown, some grains negative; HCl stains slightly brown; KCN negative; HNO_3 stains greyish brown without effervescence; Aqua Regia stains brown with slow effervescence. This corresponds closely to the reactions of heazlewoodite from Tasmania given by Peacock (1947). The *x*-ray pattern of the mineral is identical with the pattern of heazlewoodite from the type locality.

Heazlewoodite in the section is associated with granular pentlandite which can be distinguished from the rarer mineral by its higher relief, more fractured appearance (due perhaps to better cleavage), its color which looks slightly brownish yellow in contrast, and by its isotropism. Both minerals are embedded in a spongy mass of magnetite. In the section, the metallic minerals form a split veinlet $\frac{1}{2}$ to $\frac{1}{4}$ inch wide in green serpentine-like gangue with disseminated magnetite.

In the field, the minerals occur in a short, 1 inch wide stringer of sulphides on the lower contact of a serpentinized peridotite dyke, about 200 feet wide and several miles long, which cuts a series of silicified tuffs and limestones of probably Carboniferous age. The rocks near the veinlet are brecciated and strongly altered to serpentine and carbonates.

A stringer of massive maucherite ($Ni_{12-x}As_8$) with minor magnetite and millerite (NiS), about five feet long and two inches wide, lies in a similar position one mile to the northwest. Other sulphide stringers in the area contain pyrrhotite and chalcopyrite. Scattered grains of native copper are found in limestone pebbles in some of the creeks.

The locality at Miles Ridge is part of the nickel-bearing belt extending from the Yukon-Alaska boundary southeast through the White River pyrrhotite showing to the Hudson Bay nickel-copper property at Quill Creek, and possibly farther. The area is readily accessible from the Alaska Highway and may prove to be an interesting locality for nickel minerals.

The writer wishes to thank Dr. R. M. Thompson of the University of British Columbia for his advice and encouragement, and Mr. W. G. Smitheringale, who first noticed this mineral in polished section.

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NIGGLIITE, A MONOTELLURIDE OF PLATINUM?

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Niggliite, named by Scholtz (1936) after the late Professor Paul Niggli, was found in a concentrate which was obtained by panning large amounts of oxidized sulphide ore from Waterfall Gorge, Insizwa, South Africa. Microchemical tests showed the presence of tellurium and platinum and a chemical analysis, performed on a fraction of a milligram, yielded 34.8 per cent platinum. The formula $PtTe_3$ was assigned to the mineral.

The author is not aware of any AX_3 compounds of platinum and B-subgroup elements. $PtTe_2$, with a cadmium iodide structure, is the only platinum telluride which has been synthesised (Thomassen, 1929 and Groeneveld Meijer, 1955). Neither optical characteristics, nor interplanar spacings and intensities of diffraction lines on x-ray powder photographs of $PtTe_2$, check with the data given by Scholtz (1936) for niggliite. With the exception of seven weak and very weak lines, which

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