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Nahatlatch Project

Mineralogy of Polished
Sections from the "H" Claim Group

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Introduction

As part of a program of geological mapping of the H-Claims in the Nahatlatch area (see writer's report dated July 26, 1973) several samples of ultramafic rock were obtained for later study. Polished sections were prepared of 3 of these samples (see table below) in order to examine the opaque constituents.

Polished Section Number	Field Sample Number	Ni %
J3-144	5	0.18
J3-145	7	0.12
J3-146	8	0.21

Mineralography

General

Thin sections were previously examined of ultramafics in the same general area. Without exception, these were heavily serpentized, though outlines of earlier olivine grains could be seen in places as well as a single remnant of orthopyroxene. The rocks are classed as "serpentized peridotite".

Polished Sections J3-144 to 146, incl.

Sections J3-145 and 146 are similar. Both contain about 6 percent secondary magnetite in the form of veinlets and disseminations. One or two pentlandite particles between 10 and 15 microns were observed in each section. Virtually no chrome spinel is present.

Section J3-144 is different in several respects. It contains abundant chrome spinel, all of which is rimmed by secondary magnetite. It also contains relatively abundant disseminated sulphides, approximately 0.3 percent. In section, these sulphides are identified exclusively as heazlewoodite (Ni_3S_2) though it is possible that millerite (NiS) could also be present.

The heazlewoodite occurs in grains up to 100 microns in diameter distributed through the serpentine. The sulphide grains are interstitial to the silicates and are usually penetrated by silicate prisms.

Discussion

The sulphide-bearing polished section (J3-144) corresponds to field sample number 5 as indicated in Figure 1 of the writer's geological report on the claim group. This location is in the central portion of the ultramafic, between the two lakes. Neither samples 4 or 6, to the south and north, respectively, were examined in polished section. Close inspection under the hand lens of both these samples reveals no sulphide (whereas sulphides can be seen in this way in number 5).

On subsequent detailed examination of the samples under the hand lens, sample number 11 was observed to carry a similar amount of disseminated sulphide to that of number 5. This sample was taken at an elevation of 6150 feet on a ridge about 4500 feet northwest of the larger lake, within 30 feet of the quartz diorite contact. Its location is probably close to the southeast boundary of claim H-1 as outlined on the recording affidavit submitted to the mining recorder July 12, 1972.

Conclusions

The occurrence of nickel sulphide in small quantity in sample number 5 may be fortuitous or it may indicate the presence of a low grade nickel sulphide zone in the core area of the ultramafic.

Sample number 11 is isolated and the significance of sulphides in this sample is unknown.

Additional sampling carried out in the vicinity of sample numbers 5 and 11 would indicate if the sulphides exhibit lateral persistence.

Respectfully submitted

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