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HAM MINERAL CLAIMS 105 F. 11

105-F-11

MINERALOGY REPORT

HAM -1

Plagioclase-Scapolite-Scheelite Skarn

Plagioclase	50
Scapolite	16
Scheelite	10
Pyroxene	8
Calcite	5
Sphene	3
Hornblende	2
Idocrase	2
Quartz	2
Chlorite	1
Opagues	1
(? sulphide)	

Coarse anhedral crystals of pyroxene and scheelite are set in a fine grained matrix of plagioclase, scapolite and minor calcite, sphene and idocrase.

Scheelite occurs as ragged elongate crystals .5 - 2 cm. long. They show irregular extinction. Scheelite constitutes about 15% by volume of the hand specimen and 10% of the thin section. Pyroxene occurs as anhedral crystals several mm. across and shows various stages of replacement by hornblende. Its pale green colour and relatively high refringence suggest it to contain a significant proportion of Fe and therefore belong to the diopside hedenbergite solid solution series.

Plagioclase occurs in a granular mosaic with an average grain size of .5 - 1 mm. Most grains are twinned. Most scapolite is fine grained and some material identified as scapolite may be white mica. Most scapolite appears to have originated by replacement of plagioclase. Sphene occurs as euhedral grains < 1 mm. long, and idocrase as equant sub-hedral grains < -5 mm. across. A few minute pyrite grains were noted in hand specimen.

Randomly oriented quartz-calcite (-chlorite) veinlets < 1 mm. thick are spaced several mm. apart. Replacement of plagioclase by scapolite is most extensive adjacent to these veinlets.

The texture of this rock suggests that pyroxene and plagioclase crystallized at an early stage and that pyroxene was subsequently altered in part to hornblende and calcite, and plagioclase in part to scapolite and (?) calcite.

All scheelite in this rock fluoresces blue-white. A comparison of its fluorescence colour with the colours of standards on a 'Fluorescence Analyser' suggests that it contains between 0 and 0.05%  $WO_3$ .

HAM - 2

Pyroxene Skarn

Pyroxene	68
Hornblende	15
Quartz	6
Plagioclase	3
Calcite	3
Scheelite	3
Opagues	2
(pyrite)	

A medium grained granular mosaic of pyroxene and minor quartz and calcite is cut by numerous veinlets composed of hornblende, quartz and calcite.

Pyroxene is deep green in hand specimen and pale green in thin section. It shows relatively high refringence and this property together with its green colour suggests it to contain a significant quantity of Fe and hence belong to the diopside-hendenbergite solid solution series. The pyroxene has an average grain size of 1-2 mm. The quartz and calcite grains that occur within the pyroxene mosaic in places enclose isolated fragments of pyroxene in optical continuity; this texture suggests that certain pyroxene crystals have been partially replaced by quartz and calcite. Scheelite occurs as equant crystals .5 - 1 mm. across scattered throughout the pyroxene mosaic.

The pyroxene masaic is cut by numerous veinlets of two types:

- (1) Veinlets composed of markedly pleochroic hornblende crystals .5 - 1 mm. long. Most of these veinlets are several mm. in width.
- (2) Veinlets composed of quartz and minor calcite and hornblende. These veinlets are commonly less than 1 mm. in width.

Cubes and irregular masses of pyrite up to several mm. across are associated with the quartz veinlets. The quartz veinlets cut the hornblende veinlets and therefore crystallized at a later stage.

Approximately 95% of the scheelite fluoresces pale yellow. A comparison of its fluorescence colour with the colours of standards on a 'Fluorescence Analyser' suggests that this scheelite contains between 1.4 and 2.4% Mo. A similar colour comparison for the remaining 5% suggests that this fraction contains between 0 and 0.05% Mo.

HAM - 3

Pyroxene-garnet skarn

Pyroxene	57
Garnet	37
Scheelite	3
Hornblende	1
Calcite	1
Quartz	<1
Idocrase	<1
Opagues	<1

This rock is composed of a medium grained granular pyroxene-garnet mosaic of average grain size between 1 and 2 mm. Crystals of scheelite, idocrase and calcite are disseminated within this mosaic.

Pyroxene is deep green in hand specimens and pale green in thin section. It shows relatively high refringence and this property, together with its green colour suggests it to contain

a significant quantity of Fe and hence belong to the diopside-hedenbergite solid solution series. Garnet is pink in hand specimen and pale pink in thin section. Scheelite occurs as equant grains .5 - 1 mm. across.

A few hornblende-calcite veinlets cut the rock. A small quantity of sulphide (?pyrite) is associated with these veinlets.

Approximately 90% of the scheelite fluoresces pale yellow. A comparison of its fluorescence colour with the colours of standards on a 'Fluorescence Analyser' suggests that this scheelite contains between 1.4 and 2.4%  $WO_3$ . A similar colour comparison for the remaining 10% suggests that this fraction contains between 0 and 0.05%  $WO_3$ .