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Further petrographic descriptions of specimens from the Noland Bay area

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The following descriptions are of specimens collected in the Noland Bay area by geologist D. J. Jennings.

68-7A: Foreshore, east Tam-O-Shanter Bay

The hand specimen is a fine grained, crystalline, vesicular dark grey rock. A few of the largest vesicles are up to three or four millimetres across and these are mostly filled with fine grained pale greenish material.

In thin section the texture is intersertal and intergranular, consisting of lamellar twinned laths of labradorite about 0.5 mm long enclosing pale granules of augite interspersed with enclosing patches of black glass and thin rods of magnetite. Secondary minerals include irregular patches of brown siderite with curved rhombohedral cleavage and a green, laminated, faintly birefringent mineral.

The rock is a tholeiitic basalt.

68-7B

Is similar to 7A. It is paler in colour and more coarsely vesicular and the resides, which measure up 5 or 6 mm across, are mostly filled with brownish red siderite.

The rock is very similar to 7A in thin section, differing mainly in the larger vesicles filled with siderite with pronouncedly curved cleavage. In some vesicles the siderite is in the process of being replaced by radiating needles of goethite.

68-7C

This rock is darker and more vesicular than the other two. A few vesicles are filled with carbonate stained by hematite.

In thin section the rock consists mainly of labradorite laths in black glass, with subordinate granules of pyroxene and greenish yellow secondary material.

68-8A

The hand specimen is a dense, fine grained, yellowish brown rock.

In thin section the rock is a mosaic of minute golden-brown crystals of siderite with rare minute rounded grains of quartz, and a small group of spherules of pyrite.

68-8B

The hand specimen is a fine grained vesicular greywacke.

In thin section the rock resembles specimen 7A but without any carbonate. It also contains glassy patches resembling specimen 7C. In addition it contains crystals of pale brown augite up to 2 mm long and clumps of crystals.

The rock is a tholeiitic basalt.

68-9A: Xenoliths in granite, Granite Point north of Bridport

The hand specimen is a mesocratic, somewhat foliated rock consisting of quartz, feldspar and biotite, the last in roughly orientated flakes up to 0.25 mm across. Small masses of rather coarser grained quartz are strung into thin bands and lenses up to 3 cm and more in length.

In thin section the quartzose lenticles consist of a mosaic of irregularly shaped quartz grains up to 2 or 3 mm long showing strain and recrystallisation. Pale coloured cloudy inclusions are common and rare minute zircons are present. Parallel lines of bubbles cross grain boundaries and there is a network of fine cracks. Flakes of biotite occur along grain boundaries.

The rest of the rock consists of quartz grains averaging 0.2 mm long, plates of greenish brown biotite of similar size, and rarer grains of feldspar showing simple and lamellar twinning. The grains are orientated.

The rock is a metamorphosed siliceous sediment.

68-9B

The hand specimen is a fine grained, mesocratic, somewhat friable crystalline rock vaguely banded and somewhat uneven in colour.

In thin section the rock is a mosaic of clear lamellar twinned albite, sericitised plagioclase, hornblende and biotite with a little yellowish epidote and quartz.

The paler patches seen in hand specimen consist largely of sericitised plagioclase, whereas the darker parts contain fresh albite.

Veinlets of plagioclase (andesine) transect the section, some of which contain crystals of colourless zoisite.

The rock is a microgranodiorite.

68-9C

The hand specimen is a coarse grained rock consisting of white quartz and feldspar and black ferromagnesian minerals, with a darker medium grained rock on one edge of the specimen.

In thin section the coarse grained rock is a granodiorite consisting of plagioclase, a little orthoclase and quartz and plentiful hornblende and some biotite. The texture is hypidiomorphic and the rock is a granodiorite. The fine grained rock is much the same except for grainsize and a higher proportion of ferromagnesian minerals. It is a typical basic segregation.

68-9D

This is a granodiorite very similar to 9C, with a finer grained, roughly banded darker rock running through it in a vein about an inch wide.

The fine grained vein rock is a microgranodiorite similar to 9B. The lighter coloured bands contain sericitised feldspar and the darker ones fresh albite.

Thus the xenoliths of 68-9 are altered sediments (9A), basic segregations (9C), and microgranodiorites (9B, 9D), the last injected as small veins into the coarser granodiorite.

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