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Examination of rock specimens from Grassy, King Island

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Rock specimens from Grassy, King Island, received from Mr Cox of the Public Works Department have been examined with the following results

1. The hand specimen is a massive, tough, fine-grained black rock, showing minute glittering cleavage faces on some grains. Although tough in the mass it is also rather brittle in that small pieces break off rather easily with an irregular fracture. Thin white patches of calcite are rather common. The specific gravity is 2.92.

   In thin section the rock consists of a network of needles of tremolite-actinolite averaging about 0.5 mm long. On this is superimposed a mosaic of equigranular feldspar grains and books of biotite of the order of 0.1 mm across. This in turn is thickly sprinkled with grains and aggregates of magnetite.

   The rock is a hornfels.

2. In thin section the rock is a mosaic of calcite crystals averaging about 0.05 mm across. Occasional veinlets of recrystallised calcite cross the section and there is a little disseminated sulphide in single crystals, small aggregates and impersistent veinlets.

   The rock is a fine grained recrystallised limestone.

3. In thin section this is a finely banded rock consisting of brownish-yellow garnet in masses and bands of anhedral grains with intergranular calcite. Much of the rock is so fine grained as to be semi opaque. It also contains much granular diopside.

   The specimen is a skarn rock.

The three rock types although apparently well indurated, are said to break down rapidly under conditions of weathering. This may be due in part to their granular texture and in part to their mode of origin. They are all of thermal metamorphic origin and probably prone to retrogressive metamorphism under conditions of weathering. The retrogression to argillaceous and calcareous minerals may be initiated in the peripheries of the grains so that the rocks lose cohesion even before any very extensive chemical alteration occurs.

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