

Rocks examined from Prawn A1

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Rocks examined from offshore well Prawn A1, Junk Basket 9384' consist of three textural types.

One specimen is an acid volcanic rock belonging to the keratophyre-quartz-keratophyre suite. It is a porphyritic rock consisting of albite (and possibly K-feldspar) phenocrysts up to 2 mm in length in a fine groundmass of interlocking feldspar crystals (predominantly albite) with interstitial fine anhedral quartz and possibly rutile. The exact composition of the albite cannot be determined due to the lack of suitably orientated sections; the R.I. is less than balsam and the optic sign is positive. Some sub-circular aggregates of quartz, albite, carbonate and chlorite occur and the majority appear to be amygdaloids. Minor quartz may represent original phenocrysts.

A second specimen is a fine-grained rock consisting of sub-spherical masses of quartz, some as small spherulites, up to 0.03 mm in diameter, in a fine felted groundmass of micaceous minerals which are indeterminate optically, although generally not strongly pleochroic with upper second order interference colours. Within this groundmass are sporadic larger flakes of mica up to 0.03 mm in length. The rock is possibly the result of autometamorphism of a volcanic rock, as similar alteration occurs in patches along the Magnet dyke near Waratah and in other occurrences in Tasmania. No conclusive origin can be formulated.

The other specimen is a strongly cleaved rock consisting essentially of undulose, recrystallised quartz with some dimensional orientation and a subparallel development of mica, probably muscovite. Shadowy ovoids of fine micaceous minerals are common with the long axes of the ovoids parallel to the cleavage. This rock may be termed a cataclasite because of its strong deformation and uncertain original state. Its affinities with the volcanic rocks are uncertain.

The porphyritic keratophyre or quartz-keratophyre is similar to the rock from Moonlight Head Beach, which is a well banded, porphyritic volcanic rock consisting of large albite phenocrysts (up to 5 mm in length) in a fine feldspathic groundmass which has an orientation parallel to the macroscopic banding (probably flow banding) of the rock. Masses of quartz spherulites are common and replace the albite phenocrysts in places.

The rocks examined are all equivalent to volcanic and associated rocks forming the Mt Read Volcanic Arc, which consists of a thick volcanic pile which accumulated in the Cambrian and/or Upper Proterozoic in Tasmania. All members of the spilite-keratophyre suite are present and zones of intense deformation containing cataclasites of uncertain original texture are common.

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