

123

Sample Number :

3039

251125

Identification :

Chloritic, slightly sericitic, dacitic  
crystal tuff

Description :

The hand specimen is a slightly weathered sample which resembles a weakly foliated crystal tuff. Abundant phenocrasts of clear quartz and white to yellowish grey feldspar are set in a greenish grey matrix with streaks and veins of dark greenish grey chlorite.

A staining test revealed no K-feldspar.

In thin section the sample is seen to consist of abundant subhedral and broken phenocrasts, 0.2 to 4mm in size, scattered through a recrystallized matrix of feldspar and quartz clasts, up to 0.05mm in size, and very finely crystalline chlorite with cryptocrystalline feldspar and quartz.

The most abundant phenocrasts are fresh grains of well-twinned plagioclase (albite), but large embayed phenocrasts of quartz are prominent.

Aligned stringers of sericite of probable metamorphic origin accompany chlorite in parts of the matrix. A few 0.3mm veins of chlorite with accompanying fine rutile cut the sample.

An approximate mode is :

8-10%	quartz phenocrasts
20-25%	albite phenocrasts
55-65%	fine grains of plagioclase and quartz
5-8%	chlorite
1-2%	sericite
0.1%	rutile

Comments and Interpretation :

The sample has a texture which is confidently interpretable as being consistent with a crystal tuff, probably deposited as a distal facies of a terrestrial ashflow. There is no sign of aqueous rounding or sorting and even if the detritus had fallen into deep water, size sorting should have resulted.

The mineralogy indicates dacitic parentage (the albite composition of the phenocrasts is probably metamorphically adjusted) and the rock may be related to 3008 and 3013, though deposited as a more distal tuffaceous facies.

The sericite and chlorite in the body of the sample appears likely to be of low grade regional metamorphic origin. The few chlorite veins could represent a minor and apparently barren hydrothermal event.