

Sample Number : T042

Identification : Finely recrystallized, unwelded, fine vitric crystal tuff

Description :

The sample is a hand specimen of lightly weathered, light greenish grey, fine-grained massive rock with jointing, but no obvious foliation.

A staining test revealed moderately abundant fine K-feldspar, much of it within former tiny vitric shards.

In thin section the sample is seen to consist of angular, small clasts of quartz, orthoclase and plagioclase, about 0.05 to 0.4mm in size, scattered through a finely feldspathic or quartzofeldspathic matrix (grains commonly about 0.01mm) which very poorly displays unwelded vitric shard textures (about 0.1mm in size). Tiny random flakes of chlorite, small aggregates of sphene or rutile and very minor aligned flecks of sericite occur in the matrix.

An approximate mode is :

2-3%	small quartz clasts
1-2%	small feldspar clasts
89-93%	matrix albite, K-feldspar and possibly quartz after vitric shards
0.4-0.6%	matrix rutile or sphene
4-5%	matrix chlorite
0.3-0.4%	matrix sericite

Comments and Interpretations :

This sample is interpreted confidently to have been composed of unwelded tiny vitric shards and subordinate small clasts of quartz and feldspar. It has been devitrified, but does not appear to have experienced significant hydrothermal activity. Deposition could have been on land or into still water and probably involved airfall or possibly distal ashflow mechanisms.

There are similarities to T031, but small clasts of quartz are conspicuous and there are fewer clasts of plagioclase. Both tuffs appear to be of trachyandesitic derivation. Both samples have general similarities to the intensely altered vitric tuff 3171.