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251129

Sample Number : 3052

Identification : Chloritic, slightly sericitic lithic tuff
or sheared intermediate volcanic rock

Description :

The hand specimen is a slightly weathered sample composed of abundant pinkish grey, fine-grained ovoid to vermiform, ill-defined lithic clasts, commonly up to 10mm in size, set in a foliated dark greenish grey matrix.

A staining test revealed no K-feldspar.

In thin section the pinkish clasts are seen to be partly recrystallized volcanic rock, consisting of a few phenocrysts of plagioclase, 0.5 to 2mm in size, set in sutured, recrystallized mosaic of dominantly untwinned plagioclase, 0.05mm in grain size. The pinkish colour is seen to relate to a dusting of ultra-fine hematite. The plagioclase phenocrysts are partly recrystallized, but display some twinning. Optical properties are consistent with albite-oligoclase.

The matrix between the clasts is seen to consist of aligned fine chlorite and sericite and a few broken 1 to 2mm grains of plagioclase. The contacts between the lithic clasts and the chloritic matrix are blurred by shearing and recrystallization.

There is one 0.5mm limonitic cube after probable pyrite in one lithic clast.

An approximate mode is :

80-85%	albitized porphyritic intermediate clasts
10-15%	chlorite
3-5%	sericite
0.1-0.2%	broken plagioclase grains
rare	limonite after pyrite

Comments and Interpretation :

The sample may have been a coarse lithic tuff prior to albitization of its lithic clasts and chlorite-sericite alteration of its matrix probably during low grade regional metamorphism. Textures are not well preserved and an alternative interpretation of shearing and chloritic alteration of a porphyritic intermediate volcanic rock cannot be precluded.

Enough textures are preserved to indicate that the precursor rock was intermediate and leucocratic, with plagioclase phenocrysts.