

Sample Number : 3013

Identification : Moderately welded dacitic ashflow tuff
disrupted by sericitization and
chloritization

Description :

The hand specimen is a slightly weathered sample of mildly deformed rock, composed of pinkish grey volcanic lithic clasts, about 1 to 20mm in size, set in a matrix of greenish black chlorite.

A staining test revealed no K-feldspar.

In thin section the lithic clasts reveal textures plainly interpretable as those of finely recrystallized, sericitic dacitic ashflow tuff. Angular clasts of quartz and plagioclase, 0.5 to 2mm in size are set in a very finely crystalline quartzofeldspathic and sericitic groundmass with ghost textures of moderately welded vitric shards, about 0.3mm long.

There are quite a few crystals of embayed quartz with β -form, about 5mm in size. Most seem to be held within clasts of ashflow tuff, though commonly at their edges.

The rock has been shattered by a complex system of irregular fine sericite veins, then later patches and veins of chlorite with fine rutile, then a few thin fissure veins of quartz. There are veins and patches which have been rendered cavernous by weathering, but none resemble former pyrite.

An approximate mode is :

20-25%	quartz phenoclasts
25-35%	plagioclase phenoclasts
25-35%	finely crystalline feldspar and quartz with vitric ghosts
10-15%	sericite
4-6%	chlorite
0.1-0.2%	rutile
0.3-0.5%	cavities

Comments and Interpretation :

The sample is thought to be a moderately welded dacitic ashflow tuff which has been disrupted to produce secondary clastic textures during sericitization and chloritization. That is, the apparent lithic clasts seen in hand specimen are probably hydrothermally disrupted fragments of a formerly massive rock.

No sulphide mineralization was seen, but the hydrothermal alteration history of sericite, then chlorite, then quartz parallels that in 3008. The weathering cavities may even reflect former carbonate.

It would not be surprising to find that this sample is laterally or vertically equivalent to 3008. Some or all of the textures interpreted to indicate primary lithic clasts could be products of secondary disruption.