

it is more likely that they are disaggregated veinlets, since some of the marginal pyrite grains in these aggregates are too 'loose and sticking out' to have survived transport.

This is clearly a polymict felsic lava breccia composed dominantly of formerly glassy lava fragments of sparsely plagioclase-phyric dacite to rhyolite, that has suffered strong silica-sericite-pyrite alteration. Your hand specimen description is spot on.

**SAMPLE NUMBER: 431571**

**SUMMARY:**

This is a totally recrystallized felsic lava or lava breccia that has suffered intense sericite-quartz alteration followed by veining by quartz-barite-calcite-pyrite-sphalerite. Sphalerite seems to have been the last-crystallized phase, and may have replaced pyrite in the cores of some veins.

**HAND SPECIMEN:**

This is a pale grey strongly silica-sericite altered felsic lava(?) with veinlets of creamy quartz-barite-sphalerite-pyrite veins and quartz-pyrite veins with marginal barite envelopes, in which pyrite concentrations up to 4mm thick are present.

**THIN SECTION:**

The original identity of this sample has been obliterated by intense silica-sericite alteration. It was probably a very glassy felsic lava or lava breccia that has been totally replaced by a fine-grained rather heterogeneous mixture of quartz threaded throughout by intense sericite meshes, and disseminated pyrite. As for sample 431469, small prismatic apatite crystals are quite abundant.

The widest vein in this sample is zoned from outer marginal polygonal and well-formed quartz and subordinate intergrown anhedral barite to a core of non-pleochroic almost colourless, not very Fe-rich sphalerite rarely thicker than 1mm, that has rims of pyrite and calcite. It is possible that the sphalerite is replacing pyrite. Another cross-cutting vein has sheared quartz and sericite with idiomorphic pyrite grains to almost 1mm across, but only a very minor amount of colourless