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This sample was almost certainly a monomict lava breccia probably derived from a single glassy andesitic lava flow that was strongly recrystallized and brecciated by fluid fracturing during intense hydrothermal alteration.

**SAMPLE NUMBER: 431563**

**SUMMARY:**

**This is a strongly recrystallized and altered formerly sparsely plagioclase-phyric glassy dacitic lava, with strong quartz-sericite-Fe oxide alteration of the original groundmass; it contains segregations with minor barite and sphalerite in addition to pyrite.**

**HAND SPECIMEN:**

This is a foliated grey dacitic lava breccia with cream coloured lava fragments to several cm long in a darker matrix.

**THIN SECTION:**

As is common in strongly altered originally glassy felsic lava breccias, the fragmental nature of this sample is not at all obvious in thin section. The rock was clearly a glassy sparsely plagioclase-phyric dacitic lava (breccia). Sericitized albite phenocrysts make up less than 2 modal% of the sample and were less than 1mm long. No former mafic phenocrysts were apparently present, but small leucoxenitized FeTi oxide microphenocrysts were not uncommon.

The groundmass of this sample was entirely glassy, but has recrystallized to a very fine-grained felted intergrowth of quartz and sericite (and possibly also albite) with abundant very fine-grained granular Fe oxide dust throughout. Streaky discontinuous veinlets of quartz and sericite parallel the weak foliation defined by sericite and trains of oxides in the altered groundmass. An area more than 1cm wide is composed of much coarser-grained polygonal secondary quartz and intergrown sericite and subordinate pyrite cubes; it also contains a few small patches of barite, and sphalerite overgrowing one large pyrite grain. Quartz veins branch off from this segregation, indicating that it is not a discrete fragment.