

SAMPLE NUMBER: 431555

SUMMARY:

This is a formerly glassy aphyric andesitic lava that was silica-sericite altered during recrystallization of the glassy groundmass, then hydrofractured during a second episode of intense silica-alteration. Disseminated pyrite seems associated with the silica-sericite alteration.

HAND SPECIMEN:

This is a strongly altered polymict(?) lava breccia with intense fluid fracturing autobrecciation and silica-carbonate in interfragment areas. Some fragments are dark and chlorite-rich whereas others are probably silica-sericite altered.

THIN SECTION:

In thin section, this sample is seen to be a lava breccia or coarse lithic tuff that at first appears quite polymict; however careful examination of the section shows that much of the brecciation is probably hydrothermal, and the rock may originally have been a felsic or intermediate lava. Most fragments are composed of fairly coarse mosaic-textured intergrowth of anhedral quartz and feldspar, the latter intensely riddled by tiny sericite flakes. A few ghost outlines of sericitized and recrystallized former small feldspar phenocrysts are evident, but most of the primary texture of this sample has been thoroughly destroyed. Opaque grains include quite common altered FeTi oxide microphenocrysts, larger and sharper-edged disseminated pyrite (<< 1 modal%) and abundant tiny Fe oxide granules throughout the recrystallized groundmass. Chlorite occurs commonly throughout the rock intergrown with quartz and sericite.

The rock has been quite strongly silicified, with the silica alteration being responsible for the false brecciation of the rock so evident in the hand specimen. In thin section, this interstitial silica alteration between 'fragments' appears as extremely fine-grained microcrystalline material that is almost chalcedonic. It contains small patches that are recrystallizing as coarser-grained quartz, and is overprinted by small common calcite rhombs. It appears that this silica alteration post-dates the sericite-silica alteration that produced recrystallization of the once devitrified glassy groundmass.

I would say that this sample was originally a glassy, almost aphyric andesitic lava (abundant chlorite and tiny Fe oxide grains suggest a more