

0440

**SAMPLE NUMBER: 431481****SUMMARY:**

This is a totally hydrothermally altered and recrystallized formerly glassy felsic lava or lava breccia that suffered intense replacement by silica-barite-pyrite-galena-tetrahedrite-sphalerite. Further granulation and recrystallization in microshears cutting the sample rotated and digested some pyrite grains and may have been associated with remobilization of sphalerite and its replacing galena.

**HAND SPECIMEN:**

This is an intensely altered and mineralized felsic lava breccia (?) with abundant disseminated pyrite, coarser clots of pyrite and barite, and minor galena and sphalerite in a strongly silica-altered matrix.

**THIN SECTION:**

This sample is composed of a few relic areas of recrystallized but not intensely altered formerly glassy felsic lava or lava breccia fragments in a strongly hydrothermally altered and recrystallized matrix. In these least altered areas, a few ghosts of former small feldspar phenocrysts are present, and are totally replaced by very fine-grained sericite. The groundmass of these areas is fine-grained mosaic-textured quartz riddled with small pyrite grains and anhedral small patches of colourless-pale yellow sphalerite that host bundles of well-formed muscovite or phengite crystals. Veins of barite and quartz with both pyrite and sphalerite along the vein margins transect the groundmass of some fragments (?). Most of the rest of this sample is composed of a polygonal fine- to medium grained intergrowth of barite and quartz in which much larger anhedral rather moth-eaten barite grains are set. These are cut by microshears in which barite has recrystallized to polygonal small interlocking grains. Sericite trains and streaks are quite common in the recrystallized quartz-barite-sulphide matrix. The sulphides in these recrystallized matrix areas are pyrite (fairly well-formed crystals and aggregates of a few crystals) and anhedral patches of clear sphalerite.

**OPAQUE MINERALOGY:**

The sulphides in this sample occur in diffuse bands. Pyrite is generally fine-grained (<0.5mm across) and many grains have clearly been rotated and partially reacted. Intergrown galena and sphalerite occur more abundantly in areas where pyrite