

0552

SAMPLE NUMBER: 562248**SUMMARY:**

This is a polymict lava breccia dominated by small basaltic fragments, but containing at least one distinct formerly glassy dacite lava fragment. It contains weak disseminated pyrite mineralization, but lacks sphalerite.

HAND SPECIMEN:

This sample is a polymict basalt breccia with grey green basaltic, and lighter coloured almost cherty fragments to at least 1cm across set in a basaltic dark green matrix

THIN SECTION:

This is clearly a polymict lava breccia, dominated by a variety of basaltic lava fragments, but also containing a single distinct, well-preserved dacite lava fragment. Three dominant basalt fragments are present. The first is mildly vesicular and very well-preserved texturally, and consists of perfectly euhedral but totally altered olivine and rare augite phenocrysts set in a vitrophyric groundmass charged with tiny albite and augite microlites set in glassy mesostasis that has altered to chlorite and albite. Olivine phenocrysts are chloritized. Other basalts contain dominant augite and albitized plagioclase phenocrysts; augite is often preserved, and albite is partially altered to sericite. The groundmass of these more evolved basaltic fragments was considerably more glassy than the fragment described above, and the glass has altered to microcrystalline quartz, chlorite and sericite. These fragments are traversed by shear zones that have produced mild to strong local foliations and sericite development associated with pyrite mineralization. Chlorite veinlets clearly crosscut and postdate the foliation, as do calcite veinlets.

The dacite fragment is sparsely plagioclase phyric with small (mainly around 0.5mm-long) albite phenocrysts set in a typically felsic formerly glassy matrix that has devitrified to very fine-grained quartz and albite in which spotty chlorite is not uncommon; albite is largely replaced by sericite. Irregular small angular patches of secondary quartz are common in the recrystallized groundmass of the dacite.

The diverse lava fragments, including the dacite fragment mixed in with obvious Hellyer basalts, dictates that this is a polymict lava breccia unit.

OPAQUE MINERALOGY

The opaque minerals in this sample are dominantly sparsely disseminated small discrete pyrite euhedra, but occasional disrupted trains and veinlets of pyrite in quartz are present. As in the previous two samples, the pyrite has often been brittle-fractured; however, unlike the previous two samples, sphalerite-calcite alteration is not present.