

0504

**SAMPLE NUMBER: 563711**

**SUMMARY:**

This sample is a strongly carbonate-altered primitive olivine+augite basaltic lava or lapilli tuff.

**HAND SPECIMEN:**

This is a pale- to mid-grey mafic(?) lava cut by calcite veinlets and segregations.

**THIN SECTION:**

This sample was probably a basaltic lava or tuff with phenocrysts of augite and olivine. Its original texture and mineralogy has, however, been totally overprinted and largely destroyed by pervasive carbonate alteration. Relic mafic phenocrysts outlines are not well enough preserved to be diagnostic, but occasional replacement by chlorite-serpentine minerals and the common presence of large euhedral chromite inclusions suggests that most were likely to have been olivine. A few shapes reminiscent more of augite were also noted.

The groundmass of this sample was probably highly glassy. The obliteration of the primary texture by carbonate alteration renders accurate identification difficult, but in many places relic textures seem to me more like a former basaltic lapilli tuff than a lava. Abundant curved fractures define a discontinuous fairly weakly developed foliation that transects one generation of calcite veins but is itself cut by later calcite veins. The latter have relatively coarse-grained calcite crystals with finely-sutured grain boundaries, and make up most of the carbonate veins in the rock.

The abundant chromite and serpentine (?) or colourless chlorite that makes up most of this rock besides calcite suggest that it was a Cr-rich fairly primitive basalt compositionally. The texture, although not definitive due to strong carbonate alteration, is more suggestive of a basaltic lapilli tuff than a basaltic lava.