

SAMPLE: 562694

SUMMARY: This sample is a strongly carbonate-chlorite-altered polymict basaltic lava breccia.

HAND SPECIMEN:

This is a heterogeneous, rather coarse, strongly carbonate altered lava breccia including massive, finely porphyritic, to highly vesicular and chloritized lava fragments in a very heterogeneous, altered matrix.

THIN SECTION DESCRIPTION:

This sample is seen in thin section to be a basaltic lava breccia composed of two distinct domains corresponding to different lava fragments. The better preserved lava is strongly vesicular, but with very small ($\ll 0.5$ mm across) vesicles that are filled with secondary quartz and calcite. It contains around 10 modal% of very large (to 4mm long) and complexly intergrown fresh augite phenocrysts, and considerably less but noticeable amounts of totally altered small olivine phenocrysts, now replaced by finely granular quartz and chlorite, with minor calcite. The groundmass of this fragment was glassy and very finely vesicular, and has devitrified and altered to an isotropic irresolvable material shot through with tiny blebs of quartz and quartz-lined, chlorite-filled cavities. The other lava fragment(s) was far more coarsely vesicular, and evolved than the fragment described above. It consists of around 10 modal% of large fresh augite phenocrysts, but unlike the other fragment, also contains quite common smaller (< 1 mm long) albitized plagioclase phenocrysts. The highly vesicular (almost pumiceous) glassy groundmass has been extensively replaced by matted green chlorite and abundant calcite, with common stringers of epidote and secondary quartz.

This sample was clearly a polymict basaltic lava breccia in which the more glassy and vesicular fragments were more intensely carbonate-chlorite-altered.