

0436

SAMPLE NUMBER: 431574

SUMMARY:

This is either a lithic-vitric tuff derived from a submarine ash-cloud type eruption, or else from a mass flow that resulted from basin margin tectonism that loosened and transported basinward a cloud of silty volcanic ash (now devitrified and altered).

HAND SPECIMEN:

This is a dark grey, possibly silica-altered lava breccia, probably polymict, with lava fragments to at least 2cm across.

THIN SECTION:

This sample is probably a lithic vitric tuff. Most of the sample is composed of an unusual heterogeneous lithotype that was originally sparsely plagioclase-phyric and largely glassy, and has a texture strongly suggesting a vitric tuff, although the degree of recrystallization is too severe to have preserved glass shard shapes. This section of the sample is composed of irregular fine-grained spots of angular secondary quartz and streaky sericite in an exceptionally fine-grained irresolvable matrix probably after devitrified glass.

A few small clasts of altered felsic lava composed of polycrystalline quartz-sericite, and a larger clast of glassy felsic lava-derived mosaic-textured quartz-albite with sericite-calcite alteration, are also present. A few narrow calcite veinlets transect this sample.

This rock is rather difficult to diagnose, but I would say that it is either a hot cloud-type ash flow erupted into this submarine basin, or else it is a mass flow unit involving abundant silty felsic volcanic ash that was shaken loose and flowed basinward from basin-margin instability.