

**SAMPLE: 562801**

**SUMMARY:** This rock is a lapilli volcanoclastic derived almost entirely from detritus from submarine, glassy andesite lavas.

**HAND SPECIMEN:**

This rock is a grey-green volcanoclastic sandstone composed dominantly feldspar-phyric andesitic clasts or fragments; rock is traversed by elongate streaky zones of silicification (?). Max. size of clasts is ~1cm, but most are much smaller.

**THIN SECTION DESCRIPTION:**

This sample is clearly a volcanoclastic sediment, although it must have had a high original detrital glassy ash content. It is composed of three major clasts types; most abundant and notable are angular to subhedral phenocryst fragments of augite, and clasts of almost euhedral to slightly rounded strongly altered albite phenocrysts, and somewhat larger lithic clasts mainly derived from glassy andesites. The augite crystal debris forms about 5 modal% of this rock and is quite fresh; the crystals are clear, rarely longer than 1mm, and also occur as phenocrysts in some of the larger lithic clasts. They are typical andesitic clinopyroxenes. Former plagioclase phenocrysts and crystal fragments were probably about as modally abundant as the augite, but are more difficult to 'see', due to strong sericite-clay alteration. Lithic clasts constitute about 3-5 modal% of this rock, but are also difficult to differentiate from the devitrified formerly glassy ash matrix. Most lithic clasts were glassy plagioclase- or plagioclase+augite -phyric andesites and dacites. The groundmasses of these lava fragments is invariably devitrified and rather dark, often with calcite overprinting the original groundmass. Another common clast type has similar phenocryst assemblages to that described, but a vitrophyric groundmass charged with tiny albite microlites.

The matrix of this rock is a dark murky mixture probably of comminuted glassy lava fragments similar to those just described, and glassy ash. The glass has totally devitrified and recrystallized to messy extremely fine-grained quartz-albite-sericite intergrowths with no regular fabric. Lacy calcite overprints areas of groundmass. Several bands of constantly finer-grained detritus, some only a few mm wide, are almost certainly discrete beds. Some other zones, in places almost perpendicular to the bedding, are characterized by cleaner matrix areas, and probably represent zones that were soaked in silica solutions and which recrystallized largely as very fine-grained quartz without the (sericitized) feldspar.

This is clearly a lapilli volcanoclastic derived largely, if not entirely from submarine, glassy andesitic lavas.