

ABSTRACTThe Petrology of Acid Xenoliths from Surtsey

by

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A number of acid plutonic xenoliths from the volcano Surtsey are described, along with fine grained rock-fragments, consisting chiefly of anorthitic plagioclase and tridymite. The chemistry of the xenoliths indicates a compositional pattern from tonalitic to pyrometamorphic types. A hypothesis is put forward that the tonalitic xenoliths have undergone partial fusion during transport to the surface in the basaltic magma and the removal of a salic liquid from granitic xenolith into the magma has resulted in the formation of a residue of anorthitic plagioclase and tridymite. Granitic xenoliths from other parts of Iceland, and their fusion products, are also described.