Sample: ISC47101; Location: Sidewall Core 44, 2750 m

Rock Name:

Compact sandstone

Thin Section:

This sample has been badly effected by the sampling bullet and the interpretation of the petrography should be regarded as tentatively only.

The sample contains about 10 to 15% of clay minerals of which probably about 3 to 5% is kaolinite and the remainder in all likelihood derived from original lithic clasts. As far as can be determined the sample now has a rather compact texture resulting both from the crystallisation of the kaolinite and deformation of the clays in the lithic fragments; more important still, however, has been the development of long and curved contacts between the quartz grains during compaction and lithification. The more coherent parts of the section show the development of triple-point junctions similar to those described in the sample immediately above. There are some instances of overgrowths on the quartz grains and these are somewhat more abundant in this rock than in that from 2746.5 m.

Authigenic carbonate comprises less than 2% of the volume of the rock and there are trace amounts of detrital feldspar and muscovite. The rock is well sorted and has an average grain size of about 0.2 to 0.3 mm.

The thin section contains a moderate amount of porosity but it is thought unlikely that much of this is integral to the originally undisturbed sandstone and it is likely that the rock has limited porosity and permeability but probably kaolinite is the principal clay mineral and reactive illites, smectites and chlorites are likely to be present only in very small amounts.