

Sample: TSC47084; Location: Pelican-5, Core 3; 2888 m

Rock Name:

Porous clean sandstone

Thin Section:

An optical estimate of the constituents gives the following:

	%
Quartz	65
Pores	20(+?)
Lithic fragments	10
Carbonate	2
Authigenic kaolinite	1
Feldspar	1

This sandstone is distinctly different from the two described above in that it is coarser grained, cleaner (to the extent that it contains little lithic material) and distinctly more porous. It is thought that because of the relatively small amount of lithic fragments there was more circulation of pore waters during compaction and burial and consequently the rock contains much more evidence of the presence of overgrowths on the quartz grains and it is estimated that probably 30 to 50% of the quartz grains show some evidence of the presence of overgrowths.

The pores in this rock generally range in size from 0.1 to about 0.4 mm; many of the smaller pores are partially bounded by rational crystal faces of quartz and appear to be modified primary pores whereas the secondary pores (probably quantitatively not as abundant) are somewhat larger and are probably associated with the dissolution of original lithic fragments.

The quartz grains are well sorted about an average size of 0.25 mm and most appear to have shown reasonably well rounded outlines although these have been modified by overgrowths. Authigenic kaolinite forms well defined monomineralic patches which tend to fill the whole of the intergranular space where they occur whereas the carbonate is more widely distributed throughout the rock and is generally fine-grained.