

SAMPLE: Core 37, 2788.5m: TSC47282

Rock Name:
Sandstone

Thin Section:

An optical estimate of the constituents gives the following :

	<u>%</u>
Quartz	65
Clay/sericite	15
Lithic and chert clasts	4
Siderite	3
Feldspar	2
Tourmaline	Tr
Zircon	Tr
Opagues	2
Pores	10

This sample consists mainly of an interlocking mosaic of quartz grains with a typical grain size between 0.15 and 0.5 mm. The detrital quartz grains generally exhibit subangular to subrounded shapes but invariably have strong overgrowths. In some cases these overgrowths are defined by inclusions which outline the original detrital grain but in some grains the overgrowths are not differentiated from the original detrital grain. Where these overgrowths penetrate into interstitial void spaces very straight crystal faces are formed and at least locally well terminated overgrowths have developed.

The interstitial regions between the detrital quartz grains consist mainly of angular voids ranging up to 0.2 mm in size. Locally the interstices are filled or partially filled with clay including weakly birefringent clay considered to be kaolinite and a fibrous, sericitic clay. Clay is also concentrated in irregular elongate patches or lenses up to 3 mm wide where it has a translucent, iron stained colour. These lenses have a much smaller proportion of detrital quartz grains and contain some very fine detritus of about 0.05 mm size. These irregular clay patches also contain finely granular intergrowths of translucent brown carbonate believed to be siderite.

Although quartz is the major detrital component minor amounts of other detritus are also present. Detrital lithic and chert clasts are disseminated through the rock and at least some of the clasts appear to be low grade metamorphic rocks comprised of muscovite/sericite with a lepidoblastic foliation intergrown with finely granular quartz. The detrital feldspar grains consist of both polysynthetically twinned plagioclase and untwinned potash feldspar and typically have a turbid character showing a least some alteration to finely divided sericite/clay. Traces of tourmaline and zircon also form small detrital grains up to 0.2 mm wide.

Within very localised areas very weakly developed microstylolitic textures are evident. These microstylolites are generally defined by narrow bands of sericitic phyllosilicates.