

2.3. Facies and sedimentary structures



SHALE TOPPED SANDS (STS)

Name used to describe combined individual sands/shale packages. STS has a sand at the base that is commonly thinly to thickly bedded. Towards the top of the sand, rapid grading over a few centimetres occurs to a shale. The shale is commonly less than one third the thickness of the sand and is rarely thicker than the sand component. Very fine and fine grained sands dominate the STS facies. These facies typically dominate the stratigraphy of any area. Coarser sands are rarer and usually indicate a proximity to the source. Usually, the coarser sands occur in thicker beds, however, very thickly bedded very fine sand occur occasionally.

AMALGAMATED SANDS (AMS)

Amalgamated sands are defined where composite sands can be mapped. Typically, to see this, a coarse sand needs to overlie a relatively finer grained sand. Close inspection of core or outcrop is needed to see this amalgamation. Sands are characteristically medium and coarse with the occasional very coarse sand. Some intraformational breccia's occur within the amalgamated sand facies. Beds are often thickly and very thickly bedded. Commonly, five to ten beds combine to make an amalgamated sand that is five metres thick. Amalgamated sands are rare and normally comprise less than 5% of the stratigraphy in Central Victoria. The base of amalgamated sands is commonly erosional.



INTRAFORMATIONAL BRECCIA (IFB)

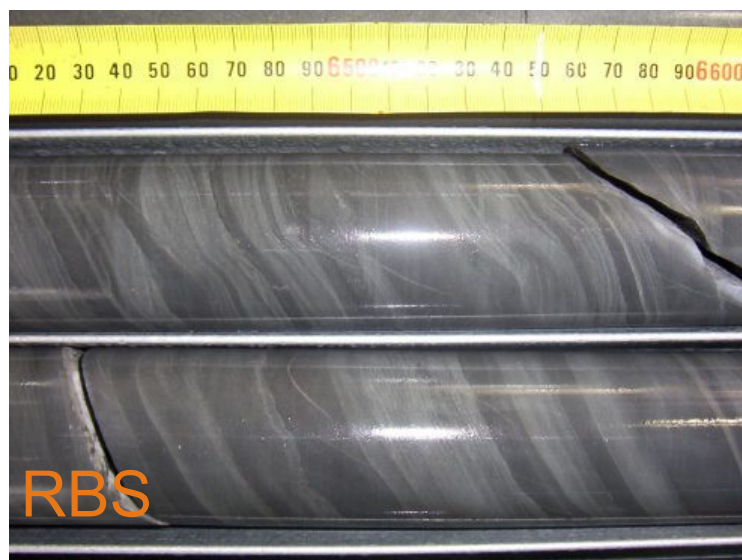
Intraformational breccia's are coarse and very coarse sands with a greater than 10% component of shale or chert clasts. The shale clasts can reach 10cm in thickness and in core appear as interbedded sands and shales. In outcrop, the 10cm wide shale clasts can reach a metre in length.



The shale clasts are rip-up clasts from nearby, unlithified shales that have been scoured and redeposited. The plastic nature of the shale, results in considerable compaction and dewatering upon burial.

CCC's (CCC)

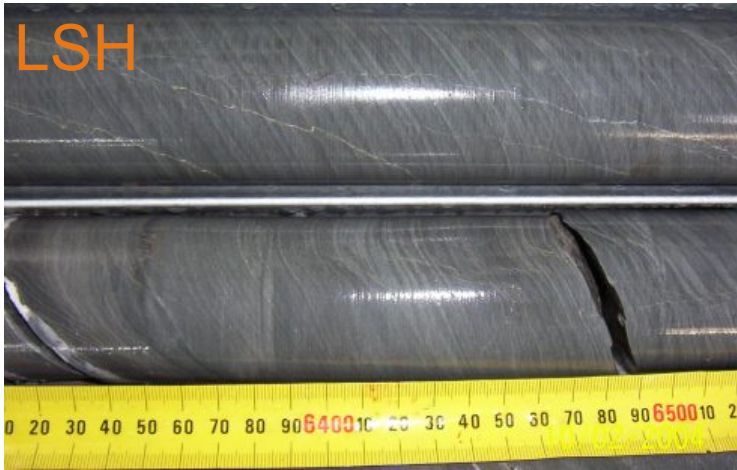
CCC's are a term used to describe a repeatedly stacked series of the 'C' component of the Bouma sequence. These facies are cross bedded and laminated very fine sands and silts. These facies are important indicators of channel margin facies. However, despite being an indicative facies, they do not make good marker beds as they are typically very discontinuous.



RIPPLE BEDDED SILTS (RBS)

Ripple bedded silts are thinly bedded units of fining upwards silts and clays. The base of the silts are usually sharp whereas the upper boundary is transitional into clay. Commonly the silts are ripple laminated.

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LAMINATED SHALE (LSH)

As the name suggests, laminated shales are shales that show distinct laminae. This facies can reach several metres thickness. When found in excess of a metre in thickness, they are laterally extensive. The LSH facies is deposited distally to the STS facies and they commonly grade from one to the other.

MASSIVE SHALE (MSH)

As the name suggests, the massive shale facies is a shale without bedding structures. These shales are usually dark grey to black and can be several metres thick. Commonly this facies is gradational with LSH or RBS.

PRACTICAL USE OF THE STS FACIES

The lutite component of STS is RBS, LSH or MSH, however, for practical mapping purposes, they are combined and mapped as an STS. However, thickly and very thickly bedded lutites are sufficiently thick enough to indicate the coarse clastic input has been absent for a considerable time. Furthermore, thick and very thickly bedded lutites are usually laterally continuous and make significant mappable units so should be mapped or logged separately. Names are formalised through a publication, they must be used in talking marks (eg. 'Massive Sand')

Bed thickness	
cm	
1	Laminated
3	Very thinly bedded
10	Thinly bedded
30	Medium bedded
100	Thickly bedded
	Very thickly bedded

FLAME STRUCTURES

Shale injected into overlying sand.

SAND VOLCANOES

Sand injected into overlying shale.

LOAD CASTS

Irregular base of beds due to loading

