

Yolla 1, core 1. There is a well defined lognormal relationship between the permeability and porosity measurements, indicating good predicability of reservoir quality for this facies association. The porosity-permeability gradient is steep, with a similar gradient to the fluvial facies association but higher porosities are required for a given permeability.

In conclusion there is a good relationship between depositional facies and core derived porosity and permeability data, such that it is likely that depositional facies forms the significant overprint on the scatter seen in the depth and sediment age plots.

The best quality reservoirs are preserved in shoreface, lagoonal delta and fluvial facies associations. Shallow subaqueous sandsheet sandstones despite having initial good reservoir quality lose permeability rapidly as porosity is reduced.

#### 7.4.6 Reservoir Distribution

The objective of this study is to document the distribution of gross and net sandstone within the Eastern View Coal Measures. The data were compiled from the Terrastation database described earlier and relies entirely on wireline data.

Gross sandstone was generally determined using a gamma ray range of 0 - 75 API, however this range was modified where high mud weight and/or mud log data suggested that the range was incorrect. The smallest range used in such zones was for gamma ray values of 0 - 60 API. Differentiation between the very fine grained sandstones and siltstones observed in many parts of the EVCM results in some difficulties with tying to reconcile the mudlog data with gamma ray cutoff values. A further lithology discriminator was used to exclude coals and igneous extrusives and intrusives.

Net sandstone values were determined from the gross sandstone by further removing all sandstone with a Wyllie porosity of less than 18%. As described