

3.6 Porosity and Permeability

Porosities, as measured on cores, range from essentially zero (in dolomitised sandstones) to 30 percent, but are generally between 15 and 25 percent. The dominant range appears to be 17-19 percent.

Measured permeabilities average in the tens of millidarcies but can be as high as 1000 md. It is not known, however, if very high permeability values are due to fracturing of the core sample. RFT results suggest permeabilities in the 1-2 md range but this may be due to severe formation damage and inadequate testing. Limited core data correlations suggests that very low permeability does occur when porosity falls below 13 percent.

3.7 Discussion

There is conflicting evidence from core data versus Formation Interval Test (FIT) results on the permeability of reservoir sands. This is a most critical factor in estimating deliverability and hence commercial viability of prospects.

FIT's can be easily influenced by formation damage as they only sample an area within a few centimetres of the borehole. Hence results are questionable, particularly when they conflict with core data.

Prior to any future drilling programme it is recommended that tests are made for sensitivity to drill fluids in an effort to reduce potential formation damage.

Only extended production testing seems likely to resolve