

in the previous section permeability is affected by depth of burial, diagenesis, and depositional facies, therefore a simple porosity cutoff may not be equally appropriate for all sandstones. For this reason maps showing net sandstone are useful for establishing regional trends but must be used with reference to these other factors.

Table 7.1 shows the gross and net sandstone thickness in each of the upper five units of the EVC, Table 7.2 shows the net sandstone as a percentage of gross sandstone in each unit and Table 7.3 shows the percentage of gross to net sandstone in each unit.

Nearly all wells show a gradual reduction in gross and therefore also net sand content with depth. In Units 1, 2 and 3 over 90% of the gross sand is net sand, with the exception of Tilana 1 and Yolla 1 located outside T/25P.

Unit 4 (the hydrocarbon zone in the Pelican Field) shows the greatest regional variation in the distribution of gross and net sandstone. Figure 7.2 shows a map of the regional variation in the percentage of gross to net sandstone. The map shows that in the Pelican Trough the percentage of net sandstone has reduced to 30-60% whilst on the margin of the trough at Flinders 1 more net sandstone (85.4%) is preserved reflecting better reservoir quality at shallower depths of burial. In the north eastern corner of the permit large amounts of net sandstone (92.4- 99.1% of gross sandstone) are preserved as shown by Poonboon 1, Nangkero 1 and Dondu 1.

Figure 7.3 shows the percentage thickness of net sand to the gross thickness of Unit 4. The trends shown by this map are similar to those seen in Figure 7.2.

Unit 5 (hydrocarbon bearing at Pelican 5 but tight and hydrocarbon bearing with good deliverability at Yolla 1) has only been completely penetrated by two wells in T/25P, Pelican 5 and Poonboon 1. Flinders 1 and Pelican 3 also penetrated significant thicknesses of Unit 5.