



# Regional Geology of the Southern Carnarvon Basin

## Figure captions

- Figure 1** Map showing the location and extent of the Southern Carnarvon Basin, its main geological provinces and the distribution of petroleum exploration wells.
- Figure 2** Structural elements map for the Southern Carnarvon Basin showing the location of petroleum wells and location of cross-sections in Figures 5, 6, 7 and 11.
- Figure 3** Bouguer gravity image of the Southern Carnarvon Basin showing the correlation between gravity anomalies and major depocentres within the basin. Tectonic elements of the Southern Carnarvon Basin based on current interpretation and compilation from Hocking et al (1987), Lockwood and D'ercle (2004) and Woodside (2003b, 2003c).
- Figure 4** Geological cross-sections of the main structural provinces within the Southern Carnarvon Basin (modified from Hocking R. M., Moors H. T., and Van De Graaff W. J. E., 1987). See Figure 2 for location of cross-sections.
- Figure 5** Seismic line gpctr-93-0405 showing tectonic relationship between the Northern and Southern Carnarvon basins. Line location shown on Figure 2.
- Figure 6** GA-acquired seismic line s310/42 across boundary between Exmouth Sub-basin and Gascoyne Sub-basin, showing structural architecture below regional Cretaceous unconformity. Line location shown on Figure 8.
- Figure 7** Seismic line (wg98ct-4) across the boundary between the Bernier Platform and the Mesozoic depocentre of the southern Exmouth Sub-basin. Line location shown on Figure 2.
- Figure 8** Generalised stratigraphy of the Southern Carnarvon Basin (after Gradstein et al, 2004 and Ogg et al, 2008).
- Figure 9** Map showing seismic data coverage in the Southern Carnarvon Basin.
- Figure 10** Stratigraphic chart for the Southern Carnarvon Basin showing petroleum systems elements and possible play types (Geologic Time Scale after Gradstein et al, 2004 and Ogg et al, 2008).
- Figure 11** Seismic line (Cuvier seismic survey, line 92m-126) across the northern Bernier Platform showing potential Paleozoic plays. 1 - Miocene anticline, 2 - Paleozoic horst block, 3 - Devonian reef (modified from Geary, G., 1994). Location of the seismic line is shown on Figure 2.
- Figure 12** Generalised cross-section showing conceptual plays across the Southern Carnarvon Basin and southernmost Northern Carnarvon Basin. Source rock intervals: SR1 - Coburn Formation, SR2 - Gneudna Formation, SR3 - Locker Shale, SR4 - lacustrine shales of Mungaroo Formation, SR5 - Dingo Formation
- Figure 13** Map showing marine reserves, marine parks, multiple use zones and ecological features in the Southern Carnarvon Basin