



Regional Geology of the Sorell Basin

Figure captions

- Figure 1** Map of the Sorell Basin showing bathymetry and distribution of petroleum exploration wells.
- Figure 2** Tectonic elements map of the Sorell Basin showing major faults, bathymetry, wells and location of seismic cross sections (Figures 5, 6 and 7).
- Figure 3** Structural elements of the Sorell Basin with major faults and mapped sediment thickness from Stacey et al (2013).
- Figure 4** Stratigraphic chart for the Sorell Basin including basin phases, lithostratigraphy, Otway Basin supersequences and horizons from Krassay et al. (2004), and hydrocarbon occurrences (after Stacey et al 2013; Geologic Time Scale after Gradstein et al, 2020).
- Figure 5** Seismic section DS01-126 through Whelk 1 across the southern Otway Basin and northern Sandy Cape Sub-basin, Sorell Basin (from Stacey et al., 2013). Location of the line shown on Figure 2. Seismic sequences are shown in Figure 4. For modelled present day maturity see Figure 11.
- Figure 6** Seismic line SS04-001 through Cape Sorell 1, Strahan Sub-basin (from Stacey et al, 2013). Location shown on Figure 2. Seismic sequences are shown in Figure 4. For modelled present day maturity see Figure 10.
- Figure 7** Seismic line s159-01 across the southern Sorell Basin identifying depocentres and tectonic features (after Totterdell et al., 2014). Location shown on Figure 2.
- Figure 8** Map showing the Sorell Basin and surrounding basins with their petroleum exploration permits, gas fields and petroleum production facilities.
- Figure 9** Map showing the Sorell Basin and surrounding basins with current operators, active exploration permits, retention leases, production licences, gas fields and pipelines.
- Figure 10** a) Geological model across the Strahan Sub-basin (seismic SS04-001) through Cape Sorell 1; and b) and modelled present-day maturity for same section (after Stacey et al, 2013). Location shown on Figure 2
- Figure 11** a) Geological model across the southern Otway basin and northern Sandy Cape Sub-basin (seismic line DS01-126) through Whelk 1; and b) and modelled present-day maturity for same section (after Stacey et al, 2013). Location shown on Figure 2
- Figure 12** Map showing marine reserves, marine parks, multiple use zones and ecological features in the Sorell Basin and surrounding areas.