

3.3 Provenance

Sediment transport distances were not great. The main source was from the south (Tasmania) and the northeast (Bassian Rise) and southwest (King Island) with some minor local intrabasin sources generated by uplift and volcanism. Mainland Australia is not considered a significant source area, unlike the Gippsland Basin.

Metasediments in the south and southwest and granites in the northeast are the main sediment source types.

During deposition of the EVCM the Australian/Antarctic plate was at high latitudes and glacial action within the source areas may have played an important part in the sediment transport history.

3.4 Lithological Variations

Descriptions of the various sandstone types encountered suggest a high variability of lithological types.

Generally the dominant sandstone type appears to be an off white (light brown to light grey) fine to medium grained, poor to moderately sorted, angular to subrounded quartz arenite with lesser but significant amounts of plagioclase feldspar and muscovite. Traces of tourmaline and zircon are the main heavy mineral components. Depending on the depositional environment, this dominant sandstone type is variously modified.

The coarser grained sandstones, or pebbly conglomerates, generally have up to 80 percent lithic material, of argillaceous