

Coal Resources and Coalbed Methane Potential in South Australia

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Coal measures in South Australia are primarily of Permian, Triassic, Jurassic and Tertiary age, and almost all have been evaluated for coal extraction potential, but not as yet for CBM. Companies have lodged exploration licences to evaluate the CBM potential of these basins, but no exploration on the ground has occurred.

Extensive Permian coal measures occur in the intracratonic Arckaringa, Pedirka and Cooper Basins. Coals in the Cooper Basin are a proven source of conventional oil and gas and occur at depths from 2000–3500m (bituminous to anthracite rank). Coals in the Pedirka and Arckaringa Basins are shallower and immature for oil and gas generation (sub-bituminous), but may have potential for biogenic generation. These deposits are similar in age to proven eastern Australian CBM producing basins (i.e. Bowen, Surat).

Triassic coal measures are intracratonic remnants of broader deposystems, Leigh Creek coals are the only extracted coal in SA. The coal is sub-bituminous in rank, and is mined at the margins of the basin, but extends to depths in excess of 1000m. Tertiary coals are low grade shallow lignites (<100m) that occur in both intracratonic and structurally controlled basins around the southern margins.

A collaborative research project is currently in progress between PIRSA and the Australian School of Petroleum, to evaluate the CBM potential of the State (as well as potential for enhanced CBM, underground coal gasification and GTL). As part of this project an inventory of SA coal deposits and their characteristics will be made. Information will include coal seam properties, their distribution, structure/sedimentology and hydrology.