

PETROLEUM PLAYS OF THE BOWEN AND SURAT BASINS

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A petroleum play is an exploration concept that groups fields together based on similar characteristics, generally lithological or structural, that can be applied at regional or local scales. Conventional plays can be grouped by style of trap and geological region, or by target formation. Unconventional reservoirs, require a more complex approach to play based exploration, through mapping of several, highly variable characteristics and identification of “sweet spots”. Examination of play characteristics and their spatial distributions can highlight areas that may contain new exploration prospects. This paper will review and summarise the types and distribution of petroleum plays in the Bowen and Surat basins. Since the 1960s, conventional exploration has targeted a number of different play types in the Bowen and Surat basins, varying from structural and stratigraphic traps on structural shelves and the flanks of the Taroom Trough, to coal seam gas, and, deep unconventional plays. Each of these are typically restricted to a geographic region (e.g. the Roma Shelf), or within a fairway (e.g. the Walloon Coal Seam Gas fairway). There is a general trend over time towards discoveries being made in older, deeper or more technologically challenging units. Extensive exploration and development has defined coal seam gas fairways in the Bowen Basin coal measures and Walloon Coal Measures. New exploration has examined tight or basin centred gas in the deep Taroom Trough.