

## Glacial Play Types in the Pedirka Basin, Australia

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The Pedirka Basin is an under-explored Permian-aged basin, located in central Australia. The Permian succession is covered by a thickness of over a kilometer of Mesozoic sediments of the Eromanga Basin. It is understood that the Amadeus Basin, which is immediately to the west of the Pedirka Basin, underwent up to 2 km of uplift during the Carboniferous, and probably sourced sedimentation into the Pedirka Basin. Further, it is proposed from a number of lines of evidence, including paleomagnetism, that an ice sheet covered much of central Australia, during the Early Permian. These considerations are the basis of our premise for the existence of glacial sedimentary features that may form petroleum traps in the basal Permian sequence of the Pedirka Basin.

Features with strong characteristics of complex braided stream systems, glacial moraines, and drumlin system are proposed, based on the seismic interpretation of data from the western part of the Pedirka Basin.

Giving consideration to the known sedimentary deposits, within the western part of the Pedirka Basin, it is not unreasonable to propose a glacial moraine or mound play-type. Such features are clearly mappable on the seismic data. This play-type model for the basal Permian sequence entails linear mounds (up to 10 m in height and several kilometers long) of mixed and largely unsorted sediments, which have been gradually buried (encased) in a dominantly lacustrine and swamp environment. The lacustrine environment can provide source, and the shale encased mounds can provide the reservoir. Such a play will be drilled in 2006.