

## **Seismic and Well logs interpretations to define the petroleum system and reservoir characterization of Cooper Basin**

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3D seismic and well log interpretations identify the Plays and Prospects for the Exploration of Cooper Basin in Australia. Two Permian plays are recognized in the study area. Resistivity and GR well logs analysis indicate the hydrocarbon sand interval zones. Our interpretations indicate that the Patchawarra formation with 300 meter thickness is the thickest formation in Gidgealpa group. The net pay of Tirrawarra Formation is about 4-5 meter. Murteree shale is best seal over the reservoir. Patachawarra and Toolachee Formations have a recoverable gas volume of about 116 BCF and Tirrawarra Formation has a recoverable oil volume of about 150 MMSTB.