

SUMMARY

The Bridge Bass 1990 Seismic Survey recorded 1100 km of data in the Tasmanian Exploration permit T/15P in 1990. Three hundred kilometres of this data were recorded in the Bark Sub-basin and have subsequently been interpreted and incorporated into the existing data base. The resultant interpretation has produced one drillable prospect on the Strathroy Block and an enhancement of the perceived hydrocarbon prospectivity of the Bark Sub-basin.

The zones of common interest in the Bass and Gippsland Basins (Eocene - Paleocene) map as shallow featureless planes that exhibit a gentle north-westerly dip in the Bark Sub-basin. These zones are of minimal exploration interest in this area.

The Bark Sub-basin contains three unique structural entities or blocks herein named the Batman, Strathroy and Ross blocks. Rifting of the Australian and Antarctic crustal plates (ca 100 Ma) and the opening of the Tasman Sea (ca 80 Ma) has caused each block to have a unique shape.

The Ross Block is interpreted to be a partially developed elongate rotated half-graben containing a wedge of sediments (Durroon Megasequence) equivalent in age to the hydrocarbon bearing Golden Beach Megasequence of the Gippsland and Otway Basins. The Strathroy Block is interpreted to be an antithetically faulted basement horst block. The Batman Block is interpreted to be a collapsed anticline that owes its unique geometry to extension during the Otway Rift period and 'oblique extension' during the Tasman Rift period.

The exploration targets in the Strathroy and Batman Blocks are interpreted to be located within updip closures along up-thrown fault block rims. Targets in the Ross block are interpreted to be located in the fault dependent closures adjacent to the half-graben growth normal fault. The expected reservoir/seal configuration in this sub-basin is porosity in lacustrine Otway Formation sands sealed by Durroon Mudstones.

The Durroon Megasequence in this sub-basin is interpreted to dip and thicken from a thin veneer of Durroon Mudstone in the south to a complete Durroon Megasequence (Golden Beach equivalent) in the north. Thick (in excess of 2 seconds) source rocks of Golden Beach Megasequence age equivalence are expected to be found at depths in excess of 3 seconds some 7 to 10 km north of the area of interest. The interpretation of faults and fault trends suggest that there would be minimal resistance to migrating hydrocarbons.

A drillable prospect has been mapped on the Strathroy Block. This prospect is mapped as a faulted four way dip closure at Otway Formation levels some 5 km² in area. Maximum estimated vertical relief is calculated to be approximately 160 m (ave ~80 m).

Should closer surface control over this feature be warranted it is recommended that two lines parallelling line BB88-168 be recorded over this feature.