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RELEVANCE TO OCCURRENCE OF PETROLEUM

The primary objective of Bass-3 was to evaluate the hydrocarbon potential of a closed anticlinal feature. The potentially most prospective reservoir horizon, sandstone development at the top of the "Delta Complex" between the base of the Demons Bluff Formation and the mid Eocene intra-deltaic unconformity, was found to be water wet. However, one small non-commercial gas show from 6739 to 6744 feet was logged and wireline tested. This gas show is significant in that it represents the first legitimate show of hydrocarbons recorded in the Bass Basin. Seismic evidence indicates that the gas sand was penetrated at its structurally highest point. Pressures within the sand are only slightly above normal and it is probable that gas occurs as a small reservoir trapped under an impervious shale bed at the apex of the structure.

VII

POROSITY AND PERMEABILITY OF SECTION PENETRATED

Porosity and permeability measurements made on core samples by Corelab are included as an appendix.

The sandstones of the "Delta Complex" are generally coarse grained to granular with an abundance of white clay matrix. Porosities deduced from the F.D.C. log generally vary from 18-30% - values that correspond favourably with measured porosities where cores are available. Measured permeabilities, although as high as 328 md, are generally of the order of 2 to 30 md. These low permeabilities are due to the high clay matrix content of the sands.

The 27 feet thick bed of argillaceous, very fine grained sandstone, occurring at the top of the Eocene section, has poor reservoir characteristics, with fair porosity (20%) and very poor permeability