

northwest normal fault is postulated opposite Horseshoe Bay.

3. Quality and Reliability Critique

As a reconnaissance tool in the South Sydney Basin the field and interpretive methods employed are thought to be inadequate in defining section thickness. Were it not for the onshore geologic indications the offshore section results would require a pessimistic appraisal of the permits hydrocarbon potential. Although areas of hydrocarbon production from equally shallow Tertiary depths are known (Central Sumatra and northern Honshu, Japan for example) the Permian potential remains unknown.

Numerous probable unconformities and possible basalt flows at differing geologic times contribute to geophysical problems in seismic and magnetic surveys of the area. Possibly, refraction profiles or multi-coverage seismic surveying could define basin thickness.

Velocity analyses performed on part of CDP Line M32S indicated little probability of pre-Tertiary section. The location for the CDP line was selected in the southern part of the permit because of the clearly defined (on sparker profiles) anticlinal feature at Lines T-6 and T-7 and M22S. In retrospect it would have been worthwhile obtaining some CDP data in the northern part of the permit in an attempt to gain information about the Permian section.

More information is required with respect to the nature of the Permian sequence and to the significance of the rolling surface presently mapped as Basement, but which could reflect folded Permian strata, before any conclusions as to the hydrocarbon potential of the northern part of the permit can be made. On the other hand, the definite