

3.2.4 Veridian Area

The possibility of updip potential from Poonboon 1 was identified in mapping prior to the July 1994 Permit Assessment Report. Interpretation at that time was confined to a few 1984 and 1985 Amoco seismic lines. Encouragement that a more substantial structure might be present adjacent to Poonboon came from examining paper prints of 1970 and 1972 vintage seismic lines which were unfortunately of poor quality and shipborne gravity and magnetic data from the 1984 and 1985 Amoco Seismic Surveys (Figures 3.22 and 3.23).

To enable a better interpretation of the Veridian area the 1970 and 1972 lines were reprocessed and loaded into Geoquest. Their quality remained poor to fair but the displays are much improved on the workstation. All the data available still adds up to a sparse grid in the Veridian area however there is a much better understanding of the structure and surrounding features now. The mapping can have different emphases placed upon it given the sparse grid, but if one assumes the regional NW-SE structural grain and non-connectivity of the small throw faults present the Veridian culmination at the Palaeocene level (Figure 3.24) exceeds 48 square kilometres in area.

Structurally Veridian sits on a N-S orientated ridge which connects the Yolla feature to the Pelican 3 high. It therefore sits between the Yolla Trough and an un-named Trough to the east. This eastern trough has less Tertiary sediment than the Cormorant, Yolla and Pelican Troughs but has a considerable thickness of Cretaceous section. This Cretaceous depocentre is bounded to the north west by the Yolla high to the north east by the Bassian Rise, to the south west by the Pelican 3 high and its southerly extension and it appears to be bound to the southeast by a ridge which separates this trough from the Duroon Basin. Given its different structural regime and isolation from other troughs by significant basement involved highs it is appropriate to formalise the naming of the eastern trough to the "Squid Trough". The trough has been reactivated in Late Miocene times as a sag basin and it falls on the axis of a major Top EVCN low.

Veridian is essentially a broad dome at the prospective Palaeocene level, complicated by a Lower N. asperus aged keystone graben which extends down to the Cretaceous section. Poonboon 1 unfortunately missed the crest of the structure and hit this collapsed graben structure. Miocene aged intrusive rocks have been implaced into the M. diversus section on the southern margin of the structure. Although post dating the structure and coinciding with the onset of hydrocarbon migration there is an unknown element of risk associated with the intrusives which, clearly, would have contact metamorphism associated with them. A large structure is likely to be present on the northern side of the keystone graben updip of the Nangkero 1 well. This structure is unaffected by intrusives.