

PROSPECTS AND LEADS

Detailed interpretation of existing seismic in T91-2 (Enclosures 9-14) has resulted in the mapping of one prospect which is considered to be drillable and many leads (Leads A, to S, Pipipa North and Penguin) all of which require further seismic work to mature for drilling (Enclosure 15).

The leads and prospects can be categorised into the following five main play types:

Play Type 1. Prospects and leads associated with large fault closures at the middle *M. diversus* and *L. balmei* level, located on the southwestern flank of the Pelican Trough, such as the Pipipa Deep Prospect, the Pipipa North Lead, the Penguin Lead, and Lead G. These structures are ideally located to receive hydrocarbon charge from mature source rocks in the centre of the Pelican Trough. Reservoir quality is predicted to be superior to that recorded in Pelican wells (Appendix 4). The presence of an amplitude anomaly in this interval at Pipipa Deep (Ref. Appendix 5) and possibly at other leads (eg Penguin) may reflect the presence of gas in these prospects. The biggest risk associated with this play type is the dependence on cross fault sealing, and reservoir development.

Reprocessing of seismic data over the Pipipa Deep, Penguin and Pipipa North Leads was conducted to allow seismic attribute mapping. A detailed prospect montage of the Pipipa Deep Prospect is included as Enclosure 16.

Play Type 2. Leads associated with the large inverted Pelican structure. These structures address the gas/condensate charged sequence intersected in the lower to middle *M. diversus* palynological zone in Pelican wells. Individual fault blocks are relatively small but the presence of stacked reservoirs sealed by intraformational shales results in large potential reserve estimates. The complex fault pattern in the central part of the Pelican half graben makes fault correlation difficult. Some of this risk could be reduced by the acquisition of 3D seismic data. Source is considered low risk as there seems to be an abundant gas condensate charge. The major risk is associated with reservoir quality which, as Pelican 5 has shown, is poor. Reservoir quality may be better in shallower fault blocks on the flanks of the Pelican structure.

Play Type 3. Leads which do not address hydrocarbon charge from the Pelican Trough but are dependent on charge from the shallower, smaller and less mature half grabens in the vicinity of the Poonboon 1 and Nangkero 1 wells. Pelican 3 was a test of this play type. Structures are located north of the major northwest to southeast trending bounding fault to the Pelican half graben. Leads O, M and N are in this category.