



T/25P OFFSHORE BASS BASIN

TASMANIA, AUSTRALIA



FARMOUT PROPOSAL



CONTENTS

1. Summary
2. Structure and Stratigraphy
3. Exploration History
4. Permit Details and Commitments
5. Prospectivity
6. Commercial Considerations
7. Farmout Terms

Figures:

1. Location Map
2. Stratigraphic Column
3. Bass Basin T/25P Leads & Prospects
- 3a. Yolla 1 – Log
4. T/25P – Veridian Prospect, Top Palaeocene Depth Structure
5. T/25P – Veridian Prospect, Dip Line BHA96-115
6. Eddystone and Grindstone Prospects Top middle M. Diversus Depth Structure
7. Eddystone and Grindstone Prospects Dip Line (S92A-119)

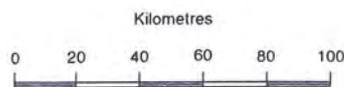
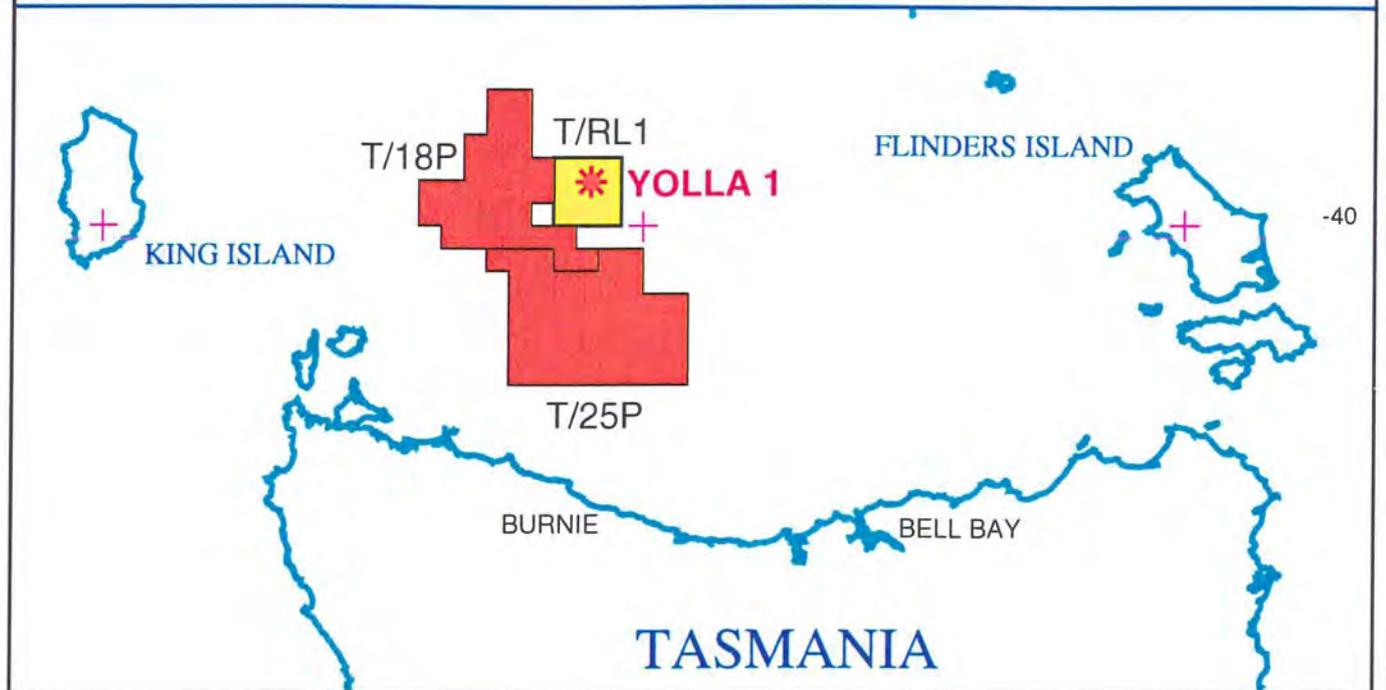
1. SUMMARY

Boral Energy Resources Limited (BERL) and its Joint Venture parties are offering to farmout up to a 40% equity in permit T/25P in exchange for contributing to the cost of drilling an exploration well on either of the Veridian or Eddystone prospects. The exploration well will fulfil the Year 6 (ending 1/12/97) work commitment. Terms are negotiable.

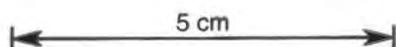
T/25P is an offshore exploration licence in the Bass Basin located to the south of the potentially commercial gas, condensate and oil discovery at Yolla (Figure 1). The permit also contains the non-commercial Pelican gas/condensate field. The centre of the permit is located approximately 80 km north of the Tasmanian coastline and 250 km south east of a landfall near Geelong, in Victoria. Development of the Yolla Field with production to a market in Tasmania would result in a gas pipeline crossing T/25P. Water depth ranges from 50 metres in the southwest to 80 metres in the northeast.

The permit is located on the central southern margin of the northwest-southeast trending Bass Basin. The Cretaceous to Tertiary age Pelican Trough is the major hydrocarbon source province in the permit. A number of prospects and leads have been identified on the margins of the Pelican Trough, at a structurally shallower level relative to gas/condensate bearing but comparatively tight reservoirs penetrated by Pelican Field Wells. In addition the northern part of the permit contains prospects which can address hydrocarbon charge from the Yolla Trough.

Two of the prospects, Veridian and Eddystone, are mature for drilling. Both prospects are sufficiently large to provide either standalone developments to address potential markets in Tasmania or Victoria, or to provide additional gas reserves to support a Yolla development. Although condensate-rich gas is the most-likely trapped hydrocarbon the possibility of encountering oil cannot be discounted.



BASS BASIN TASMANIA LOCATION MAP



2. STRUCTURE AND STRATIGRAPHY

The Bass Basin formed as a result of the Early Cretaceous rifting initiated by the separation of Australia and Antarctica. In T/25P the northwest to southeasterly trending Pelican Trough formed in response to early rifting and was subsequently infilled with Cretaceous and Tertiary sediments (Figure 3). The earliest rift fill sediments belong to the Early Cretaceous Otway Group and rest unconformably on Mesozoic and Palaeozoic "basement" rocks (Figure 2). The Otway Group has not been reached by wells in T/25P, the nearest penetration being Durroon 1 located 120 km to the east. The deep part of the Pelican Trough probably contains Otway Group sediments but these sediments are not well imaged by seismic data.

The prospective Eastern View Coal Measures (EVCM) were deposited in the Late Cretaceous to Late Eocene. These sediments are equivalent in age to the LaTrobe Group of the Gippsland Basin and comprise a thick sequence of lacustrine, shoreface, deltaic and fluvial sandstones, siltstones, shales and coals. Stratigraphic subdivision of the EVCM is largely controlled by palynology as rapid lithological changes prevent the use of basinwide or regionally correlatable lithostratigraphic units. The thickest preserved sections of the EVCM in T/25P occur in the central part of the Pelican Trough, where over 5000m of sediments were deposited. As well as being the main depocentre for the EVCM, the Pelican Trough is also the main source kitchen in the permit.

The earliest EVCM sediments are of Late Cretaceous age, the youngest parts of which have been penetrated in Pelican 5 and Poonboon 1. Extrusive igneous rocks of probable Late Cretaceous to early Palaeocene age are present to the north in T/18P and T/RL1 but have not been intersected yet in T/25P.

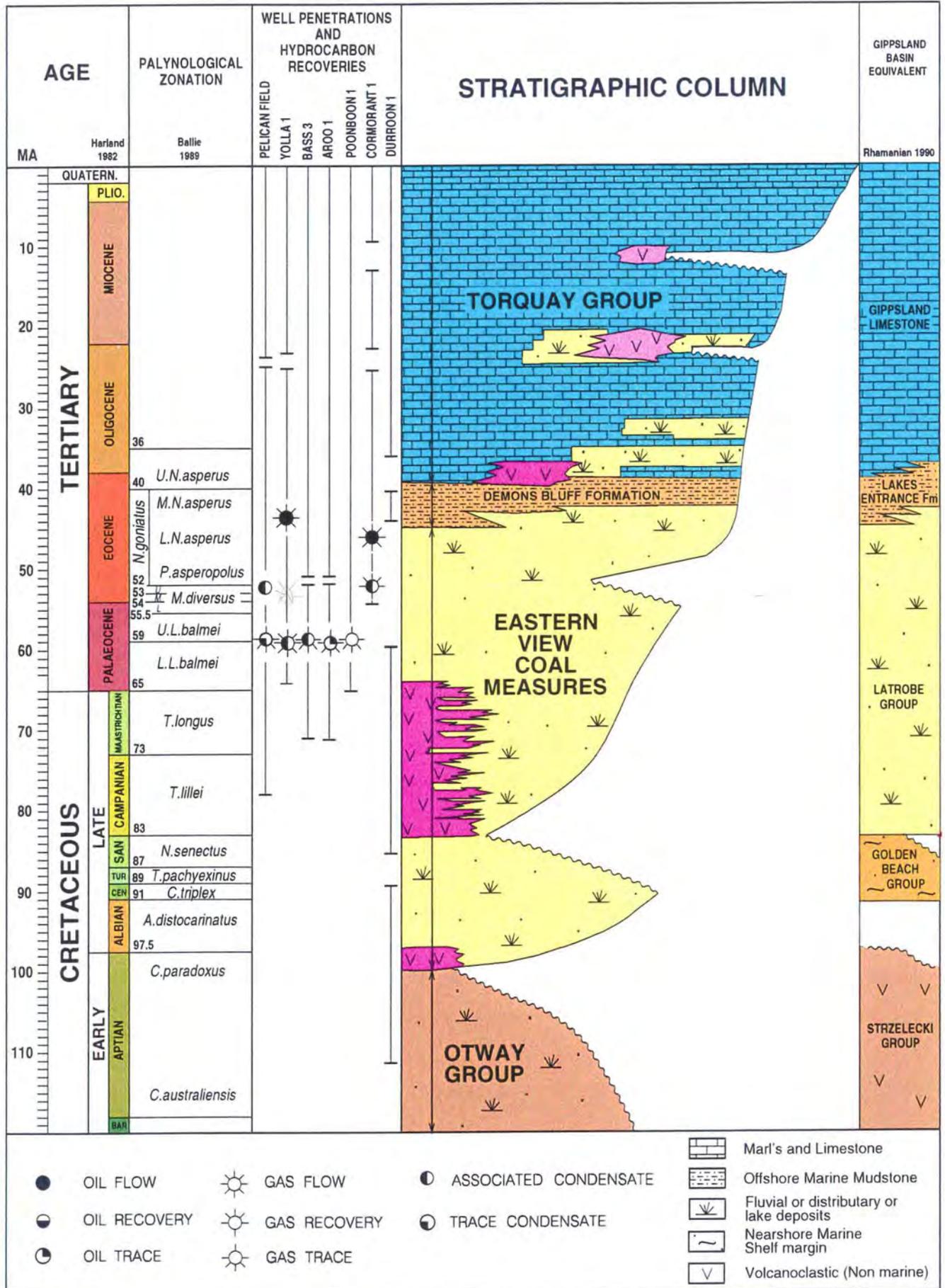
Following an episode of structural movement and erosion, the Palaeocene portion of the EVCM was deposited. At Pelican 5, Palaeocene sandstones were gas/condensate bearing but tight (maximum gas flow 0.75 MMCFD) due to the depth of burial at this location. At Poonboon 1, near the Veridian prospect in the north of the permit, good quality Palaeocene reservoirs are preserved.

Deposition of further EVCM sediments followed in the Early Eocene (*M. diversus* palynological zone). The *M. diversus* section can be subdivided using biostratigraphy into upper, middle and lower subdivisions. The middle and lower *M. diversus* is an important exploration target in the Bass Basin and contains pay at Yolla 1 (T/RL1) and has produced gas and condensate from wireline and cased hole tests in the Pelican Field (T/25P). A significant unconformity is recognised at the top of the upper *M. diversus*.

The remaining upper EVCM deposition occurred largely in response to regional sag, with the greatest amount of subsidence centred in the Pelican Trough. The top EVCM play, superficially similar to the top LaTrobe play of the Gippsland Basin, has been evaluated by previous drilling with most of the significant top EVCM four-way dip closures already tested. Unfortunately, exploration of this play has so far only resulted in the discovery of one small oil and gas accumulation at Yolla 1 (T/RL1) above the main gas zone, and the recovery by FIT of biodegraded oil at Cormorant 1 (T/18P). The main reason for failure at this level is the perceived absence of vertical migration pathways from deeper mature source beds.

Regional sag continued through deposition of the marine Demons Bluff Formation (a major regional seal) and marine Torquay Group to the present day, interrupted only by a period of structural inversion during the late Oligocene and Miocene, best seen at Cormorant (T/18P). Intrusive and extrusive igneous rocks of Oligocene to Miocene age are recognised within the basin and appear to be related to movement along major fault trends which occurred during the period of structural inversion.

BASS BASIN - TASMANIA STRATIGRAPHIC COLUMN



5 cm

T/25PEXPLORATION SUMMARYWELLS DRILLED

<u>Year</u>	<u>Well Name</u>	<u>Operator</u>	<u>Well Type</u>	<u>Target</u>	<u>Total Depth (m)</u>	<u>Result</u>	<u>Flow Rate/ Recovery</u>
1970	Pelican 1	Esso	Expl.	E. Eocene	3178.5	P&A Gas Shows	FIT's recovered gas & condensate
1970	Pelican 2	Esso	Aprl	E. Eocene	3068.1	P&A Gas Shows	FIT's recovered gas & condensate
1972	Pelican 3	Esso	Expl	E. Eocene	2906.9	P&A	FIT's recovered minor gas
1972	Poonboon 1	Esso	Expl	E. Eocene	3265.9	P&A	FIT's recovered minor gas
1973	Narimba 1	Esso	Expl	E. Eocene	3353.7	P&A	FIT's recovered minor gas
1979	Pelican 4	Hematite	Aprl	E. Eocene	3051.0	P&A	FIT's recovered gas & condensate
1982	Pipipa 1	Hematite	Expl	E. Eocene	2115.0	P&A	Oil & Gas shows
1985	Pelican 5	Amoco	Aprl	E. Eocene/ Palaeocene	4267.0	P&A	5.6 MMCFD & 302-441 BCPD
1992	Flinders 1	SAGASCO	Expl	E.Eocene/ Palaeocene	2723	P&A	Nil

3. EXPLORATION HISTORY

Nine exploration wells have been drilled within T/25P (Figure 3, Table). The first well was Esso-operated Pelican 1 drilled in 1970. Pelican 1 encountered condensate-rich gas bearing sandstone reservoirs sealed by intraformational shales belonging to the lower to middle *M diversus* palynological zone (early Eocene) of the Eastern View Coal Measures (EVCM). Several of these sandstones were tested by FIT's which recovered condensate-rich gas.

In 1972, three wells were drilled in T/25P by ESSO. The first of these was Poonboon 1, a wildcat that tested a large drape induced closure over a basement high. During drilling operations in the Palaeocene section of the EVCM a kick was experienced, and log analysis of the zone indicates the presence of a thin interval of gas pay. FIT tests of the zone recovered small amounts of gas and filtrate. A significant closure updip of Poonboon 1, the Veridian prospect, has been identified by new seismic data.

Pelican 2 was an appraisal of the gas/condensate discovery at Pelican 1, but was located on a separate fault compartment, 4 kilometres to the northwest. The well also encountered significant condensate-rich gas bearing reservoirs belonging to the lower to middle *M diversus* palynological zones of the early Eocene. FIT's were run and the best test resulted in a recovery of 37 cubic feet of gas, 750 cc of condensate and 13000 cc of mud.

Pelican 3 was drilled in 1972 on the upthrown side of a major fault which forms the northeastern limit of the Pelican Trough, and is considered as a separate structural test to the main Pelican structure. As a result of its structurally high position the well encountered a condensed sequence of EVCM. The prospective lower to middle *M diversus* palynological zone was considerably thinner than that encountered in Pelican 1 and 2 and no shows were encountered at this stratigraphic level. However, weak shows of gas were reported during drilling in sandstones belonging to the lower *L balmei* palynological zone (Palaeocene). A series of FIT tests produced minor recoveries of gas. A decision was made to case Pelican 3 and an interval of lower *L balmei* sands was tested through perforations. The test produced a flow of 168 BWPD with minor gas.

In 1973, the wildcat Narimba 1 was drilled by ESSO on a separate culmination structurally deeper, on trend with but to the northwest of the Pelican structure. Gas shows were recorded in the lower and middle *M diversus* palynological zones and were subsequently tested by FIT's. The tests recovered only small volumes of gas, probably representing solution gas. Current mapping shows that Narimba 1 was drilled on a very small closure at the key reservoir levels, and that the structure appears to have developed during the Oligocene/Miocene compressional event probably after hydrocarbon generation.

The 1979 well Pelican 4 appraised the southeastern limit of the Pelican structure and is located 3.5 kilometres to the southeast of Pelican 1. Gas shows were encountered in sandstones of the lower and middle *M diversus* palynological zone. Several of these zones were tested and good gas and condensate recoveries were obtained from two zones at 2739.5 m and 2884.6 m. Current mapping places Pelican 4 on a separate fault block to Pelican 1 and 2.

Pipipa 1 was drilled in 1982, also by Hematite. The well tested a large closure at the top of the EVCM. Subsequent remapping has shown that Pipipa 1 is a valid structural test at this level. Good oil and gas shows were recorded toward the total depth of the well, but log analysis indicated no moveable hydrocarbons to be present. It was not possible to date the sediments at total depth due to the poor preservation of spores, resulting from localised heating by an igneous intrusion which elevated vitrinite reflectance values to as high as 2.3%. However, wireline correlation and seismic ties to the Pelican Field suggest that total depth in Pipipa 1 was reached in sediments near to the top of the lower to middle *M diversus* palynological zone. The prospective lower and middle *M diversus* reservoir sequence of the Pelican Field was therefore not penetrated by Pipipa 1.

The next well in T/25P was Pelican 5, drilled by Amoco in 1986. The objectives of Pelican 5 were two fold (i) to establish deliverability characteristics of the lower to middle *M diversus* palynological zone (Pelican zone) reservoirs by testing through casing, and (ii) to evaluate the abnormally pressured zone beneath the top Palaeocene unconformity for reservoir development and fluid content.

Gas and condensate shows were again encountered in sandstones of the lower and middle *M diversus*, and shows continued with an increase in the gas wetness with increased depth below the top Palaeocene to total depth in the Late Cretaceous at 4267 m. The well was cased and several of the most encouraging shows were tested through perforations. A sandstone at the base of the lower *M diversus* zone flowed gas at 0.75 MMCFD and recovered a trace of condensate, whilst a sand within the middle *M diversus* zone flowed gas at 5.6 MMCFD with 302-441 BCPD and 662-702 BWPD (the water is interpreted to originate from another sandstone via leakage behind casing). All other zones tested are interpreted to be tight.

The most recent well in T/25P is Flinders 1, drilled by SAGASCO Resources Limited (now Boral Energy Resources Limited) in 1992. The well had two objectives, (i) to test top EVCM closure updip from Pipipa 1, located 2 km ESE and (ii) to test the prospective *M diversus* and Palaeocene levels not penetrated by Pipipa 1. The pre-drill Flinders middle *M diversus* structure was totally fault dependent and relied on counter-regional faults to develop a significant closure. No significant hydrocarbons shows were encountered.

4. PERMIT DETAILS AND COMMITMENTS

Area : 2810 sq km (43 graticular blocks)

Date Granted : 2/12/91 (Current term Year 5)

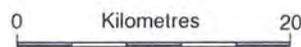
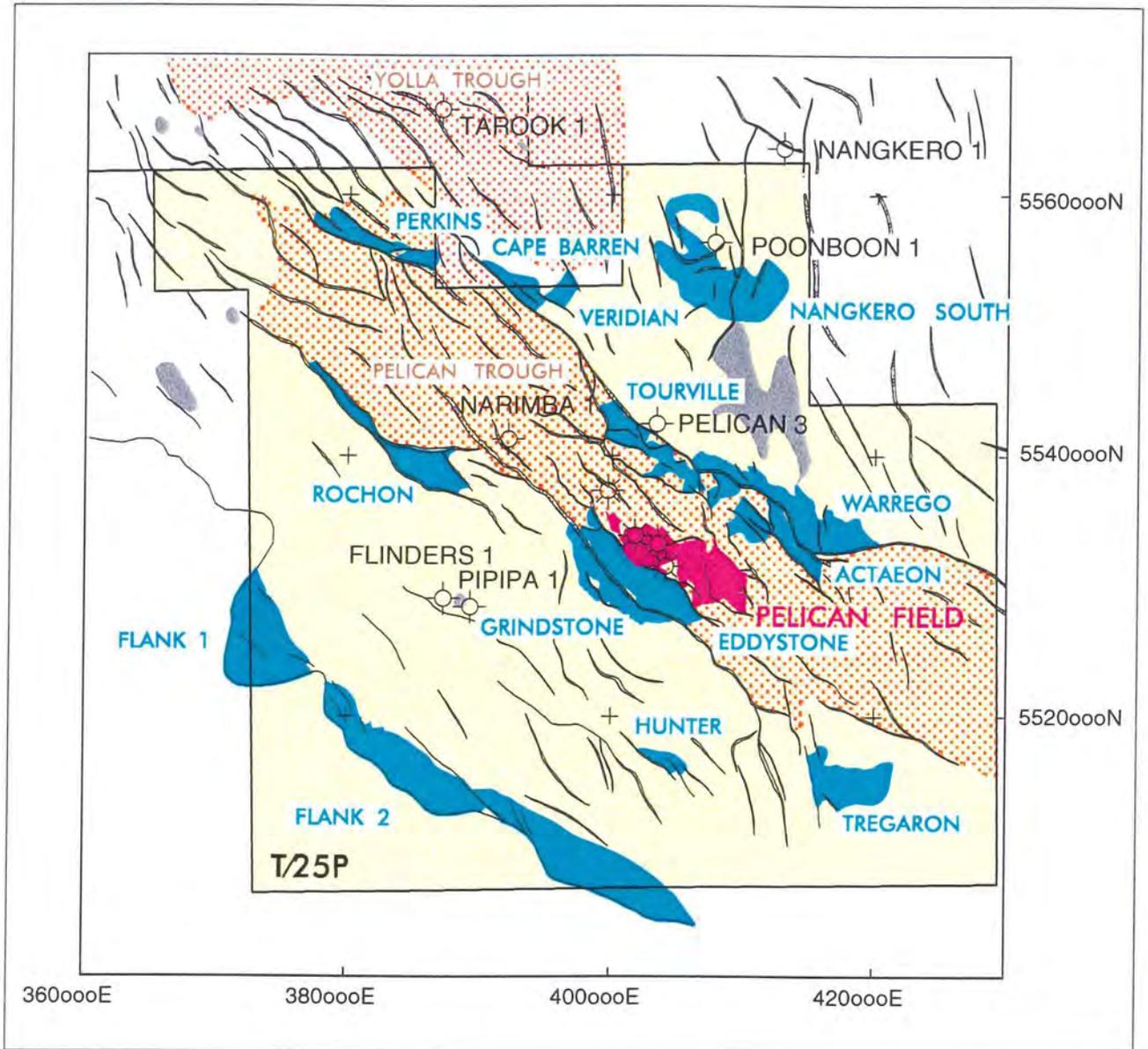
Expiry Date : 1/12/97

Participants : Boral Energy Resources Limited 67.273% (Operator)
Cultus Timor Sea Pty Ltd 20.227%
GFE Resources Ltd (Cultus) 12.500%

Encumbrances : None

Work Commitments :

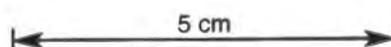
YEAR	ENDING	COMMITMENT	
		GOVERNMENT	ACTUAL
1	1/12/92	1 well 500 km seismic 1000 km reproc. Environ., G&G studies	1 well 500+ km seismic 1000+ km reproc. Environ., G&G studies
2	1/12/93	G&G review	G&G studies
3	1/12/94	250 km seismic G&G, gas marketing	287 km seismic G&G studies
4	1/12/95	Data review	G&G, seismic reprocessing
5	1/12/96	500 km seismic	666 km seismic
6	1/12/97	1 well	



 LEADS AND PROSPECTS

 IGNEOUS INTRUSIONS

**BASS BASIN
T/25P
LEADS & PROSPECTS**



5. PROSPECTIVITY

Two main play types are being addressed by the current exploration program in T/25P.

The first play type is located in the north of the permit and is represented by the Veridian prospect, a large low relief structure mapped at the Palaeocene and Cretaceous levels (Figures 4 and 5).

The Veridian prospect is located updip of Poonboon 1 which encountered a promising gas show from an intraformational EVCN sandstone of earliest Palaeocene age at a depth of 3189m. The Palaeocene at Veridian 1 is predicted to be similar to that intersected at Poonboon 1, consisting of a sequence of blocky channel sandstones with good porosity and permeability separated by shaly intervals which may provide intraformational seals as occurs in the Yolla Field.

Poonboon 1 reached total depth of 3266 m at near the top of the Late Cretaceous. The nearest other well penetrating the Late Cretaceous is Pelican 5 some 23 km to the south and therefore the reservoir potential of this level is poorly known. A 35m thick shale deposited in the early Palaeocene provides a potential intraformational sealing unit to any Cretaceous reservoirs at Veridian.

The Veridian prospect is ideally located to receive a hydrocarbon charge from the eastern part of the Yolla Trough and possibly also from an unnamed trough located immediately to the east of the prospect.

Veridian has mapped closure updip of Poonboon 1 of 42 sq km at both the top Palaeocene and top Cretaceous. Mean unrisks OGIP for the Palaeocene is 625 BCF and 550 BCF for the Cretaceous.

The second play type involves prospects and leads located in the central part of the permit around the margin of the Pelican Trough. Two of these prospects, Eddystone and Grindstone are mature for drilling (Figures 6 and 7). Both prospects are tilted fault block closures at the middle *M diversus* and Palaeocene levels. Top seals are provided by intraformational shale seals. Cross fault seals are required by either juxtaposition or fault plane seal.

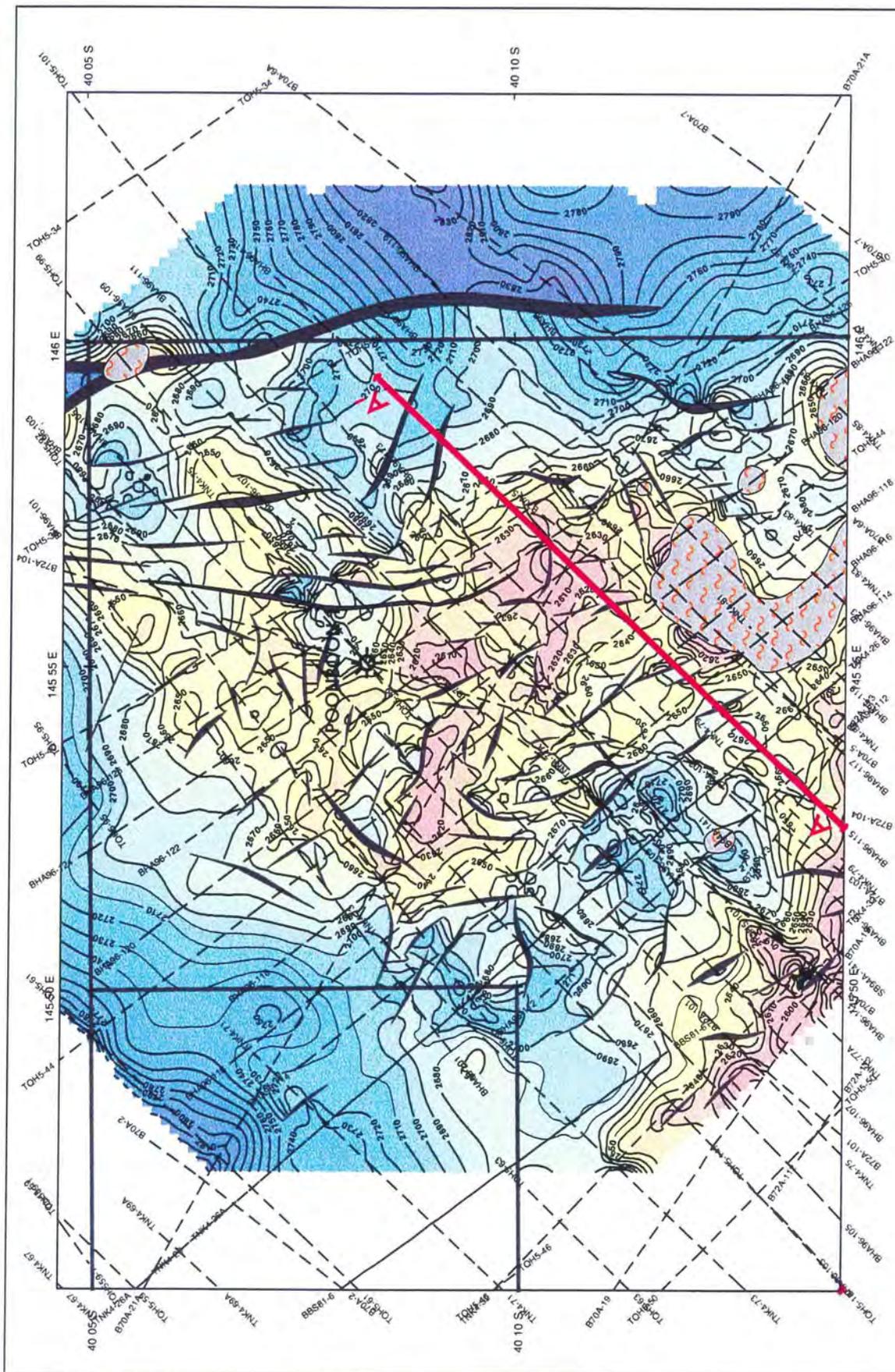
The source potential of the Pelican Trough has been demonstrated by the discovery of condensate-rich gas-bearing lower and middle *M diversus* reservoirs in Pelican 1, 2 4 and 5 and in the Palaeocene at Pelican 5. Although only Pelican 5 was flow tested it appears that the reservoirs of the Pelican Field are too tight to sustain commercial flow rates due to their depth of burial. Furthermore, the highly faulted nature of the Pelican Field has compartmentalised the reservoirs, particularly along the crest of the structure. The objective at Eddystone and Grindstone is to address these reservoirs in an updip location where they are less deeply buried and in a simpler structural setting. It is predicted that reservoir quality and possibly also net to gross ratio may be improved, compared with that encountered in the Pelican Field wells.

Eddystone has mapped closure of approximately 20 sq km at both the top middle *M diversus* and Palaeocene levels. Mean unrisks OGIP is 700 BCF for the lower and middle *M diversus* and 565 BCF for the Palaeocene.

Grindstone has mapped closure of approximately 10 sq km at the top middle *M diversus* and 12 sq km at the Palaeocene. Mean unrisks OGIP is 205 BCF for the lower and middle *M diversus* and 250 BCF for the Palaeocene. Thus whilst the mean OGIP for Grindstone may be too small for a standalone gas development, its proximity to Eddystone makes it significant in terms of adding incremental gas to a discovery at Eddystone.

Several other prospects and leads, such as the large Tourville-Acteon prospect on the north eastern flank of the Pelican Trough, are also being matured in T/25P (Figure 3).

5 cm



T/25P - VERIDIAN PROSPECT, TOP PALAEOCENE DEPTH STRUCTURE

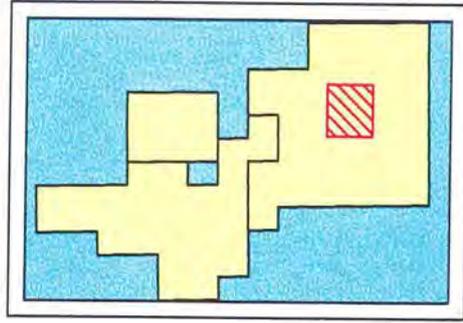
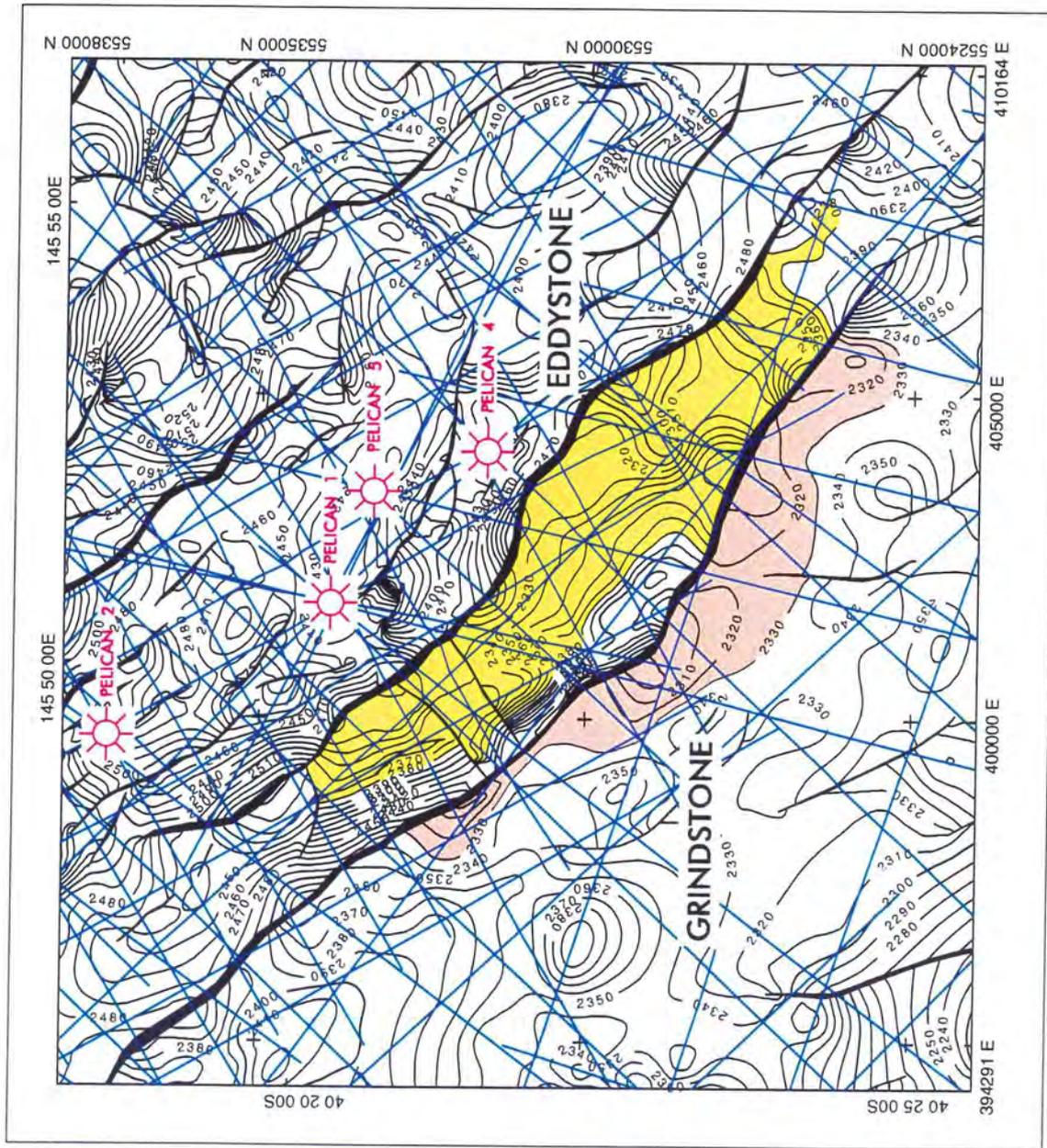
FIG.4



T/25P - VERIDIAN PROSPECT, DIP LINE BHA96-115



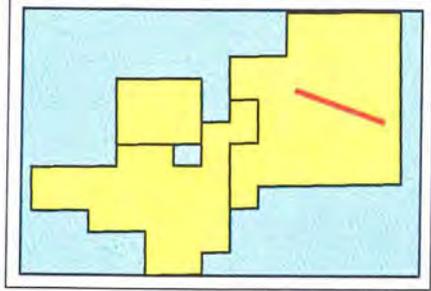
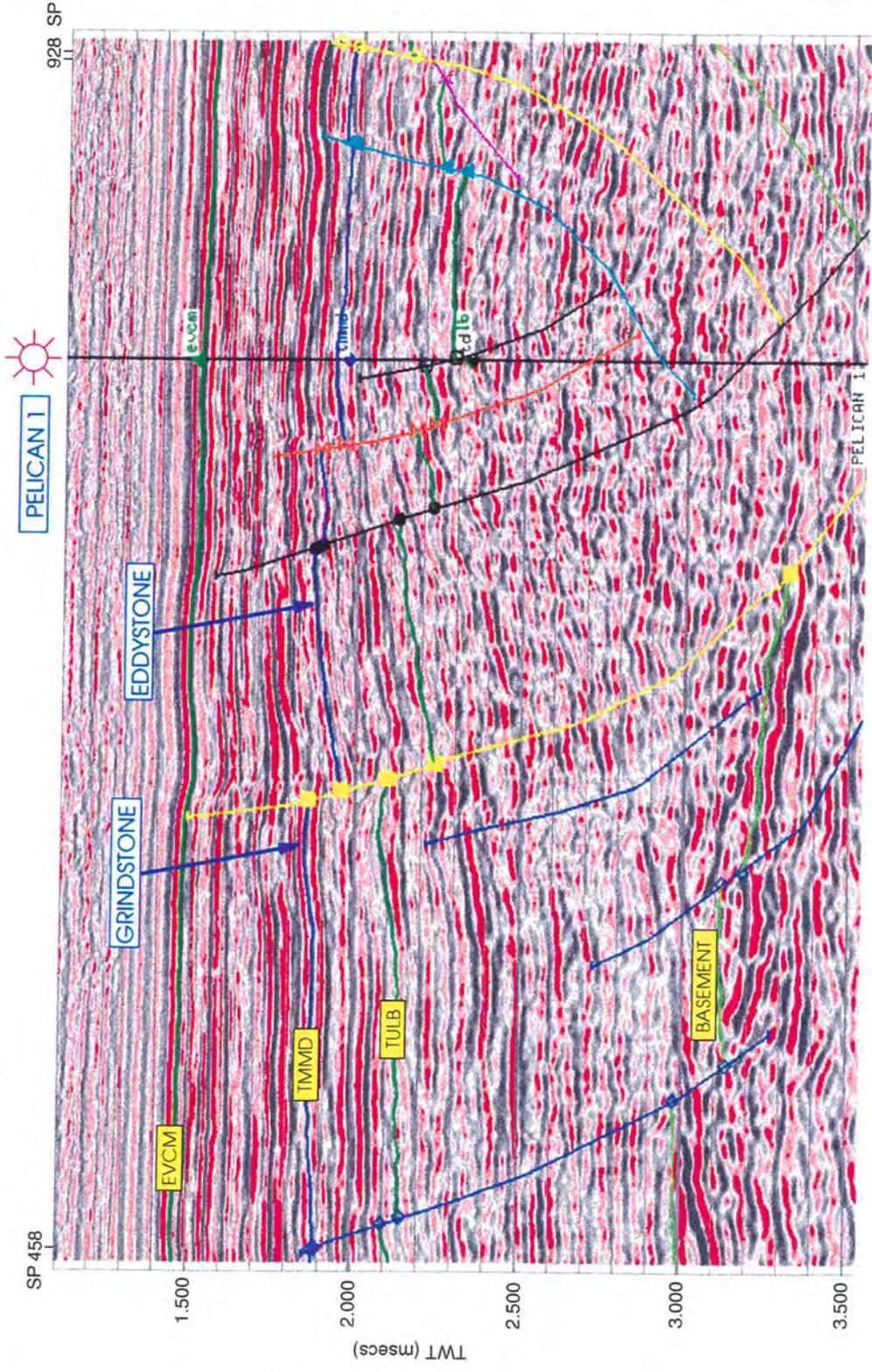
5 cm



0 1 2 3 4 5
KILOMETRES

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
AUSTRALIAN NATIONAL SPHEROID
CENTRAL MERIDIAN 147 00 00E

T/25P BASS BASIN TASMANIA EDDYSTONE AND GRINDSTONE PROSPECTS TOP MIDDLE M.DIVERSUS DEPTH STRUCTURE



T25P BASS BASIN TASMANIA
EDDYSTONE AND
GRINDSTONE PROSPECTS
DIP LINE (S92A-119)

5 cm

6 COMMERCIAL CONSIDERATIONS

The Bass Basin represents a neglected resource opportunity with significant upside on the doorstep of Australia's largest gas markets.

The area has been unduly overlooked by investors over the last decade due to the perception that it is gas prone and that no viable markets yet exist for any gas discovered. However, the deregulation of gas markets and the prospect of electricity shortage in Tasmania provide Bass Basin gas with several market opportunities.

Deregulation of the mainland market is likely to lead to the introduction of competitors in the downstream gas markets and greater access for alternative upstream suppliers. These changes are likely to be implemented over the next few years and to be well consolidated by the time that gas discoveries in the Bass Basin can be brought to market. The Bass Basin is adjacent to Australia's largest single gas market, Melbourne, where sales are currently of the order of 200 PJ per annum and are supplied exclusively from the Gippsland Basin. Interconnection with markets in NSW is likely to occur before 2000, providing further opportunities.

In Tasmania market opportunities exist around potential new resource developments, electricity generation and penetration of industrial, commercial and residential markets.

Further details of commercial negotiations and potential gas markets will be provided to selected parties once confidentiality agreements have been executed.

7. FARMOUT TERMS

The T/25P Joint Venture is seeking to farmout a 40% interest in T/25P in return for contributing to the cost of drilling and testing an exploration well to be located on either of the Veridian or Eddystone prospects. The estimated cost of an exploration well is AUS \$8 million (Veridian) and AUS \$9 million (Eddystone). Farmout terms are negotiable.

Additional information is available upon signing of a Confidentiality Agreement. Enquires concerning this farmout proposal should be addressed to:-

Rod Lovibond
Manager, Exploration Australia South
Boral Energy Resources Limited
60 Hindmarsh Square
ADELAIDE SA 5000
AUSTRALIA

Phone: (618) 235 3737
Fax: (618) 233 1851