



Thylacine 2 Well Proposal

Version 1.0

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OR_497

SUMMARY

WELL NAME	<i>Thylacine 2</i>
LOCATION	Seismic: Inline 1150, CDP 1250 Latitude: 39°, 13', 42.65"S Longitude: 142°, 50', 55.06"E Northing: 5 656 221 m N Easting: 659 566 m E
PERMIT	T/30P Offshore Otway Basin
INTEREST HOLDERS	Origin Energy Resources Ltd (Operator) 30% Woodside Energy Ltd 50% Benaris International NV 20%
TYPE OF WELL	Appraisal
ANTICIPATED SPUD	July 2001
ELEVATION	Water Depth: 101 m RT: 25 m
PLAY TYPE	Horst
OBJECTIVE	Flaxmans/upper Waarre Formation

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1. INTRODUCTION

1.1 Location

The proposed well, Thylacine 2, is to be drilled in the offshore Otway Basin in petroleum exploration permit T/30P approximately 240 km southwest of Melbourne, 70 km south of Port Campbell and 150 km southeast of Portland (Fig. 1). The location is 5.7 km west-northwest of Thylacine 1 (Fig. 2).

1.2 Permit Details

Permit T/30P was originally granted to Benaris International NV on July 10, 1997. Origin Energy Resources Limited (OERL) acquired an 80% interest by farm-in effective July 6, 1999, and later farmed on a 50% interest to Woodside Energy Ltd effective December 10, 1999. T/30P is now held by a Joint Venture comprising Origin Energy Resources Ltd (Operator 30%), Woodside Energy Ltd (50%) and Benaris International NV (20%). The drilling of Thylacine 2 is to be managed by Woodside Energy Ltd under the terms of the T/30P Offshore Operations Services Agreement between Origin Energy Resources Ltd and Woodside Energy Ltd.

Work commitments for T/30P are as follows:

Year 1:	Data review
Year 2:	Nil
Year 3:	600 km 2D seismic
Year 4:	Geological & Geophysical Studies
Year 5:	Geological & Geophysical Studies
Year 6:	1 well

The drilling of Thylacine 1 in May 2001 is expected to have fulfilled the year 6 commitment.

Well Location Map

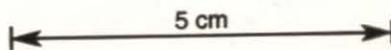
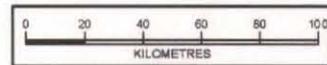
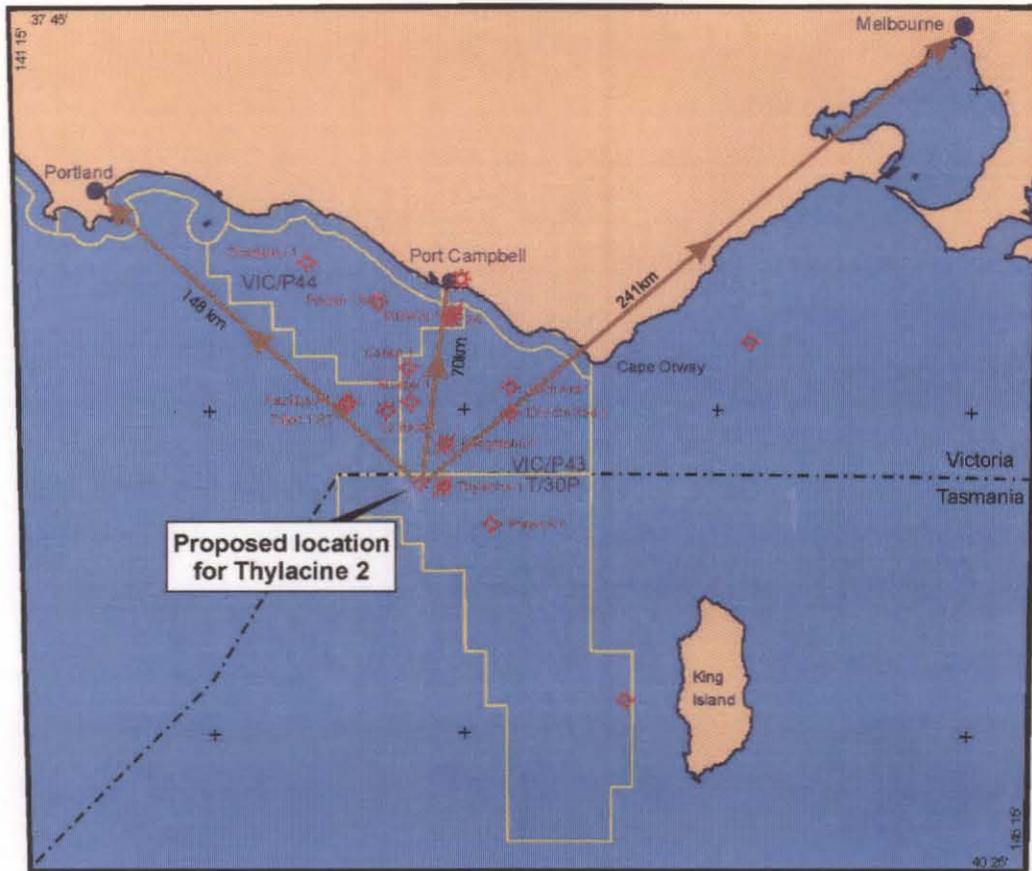


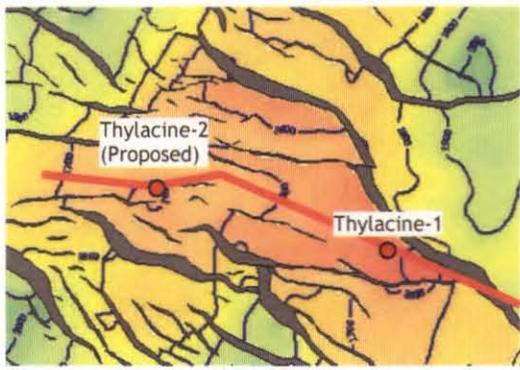
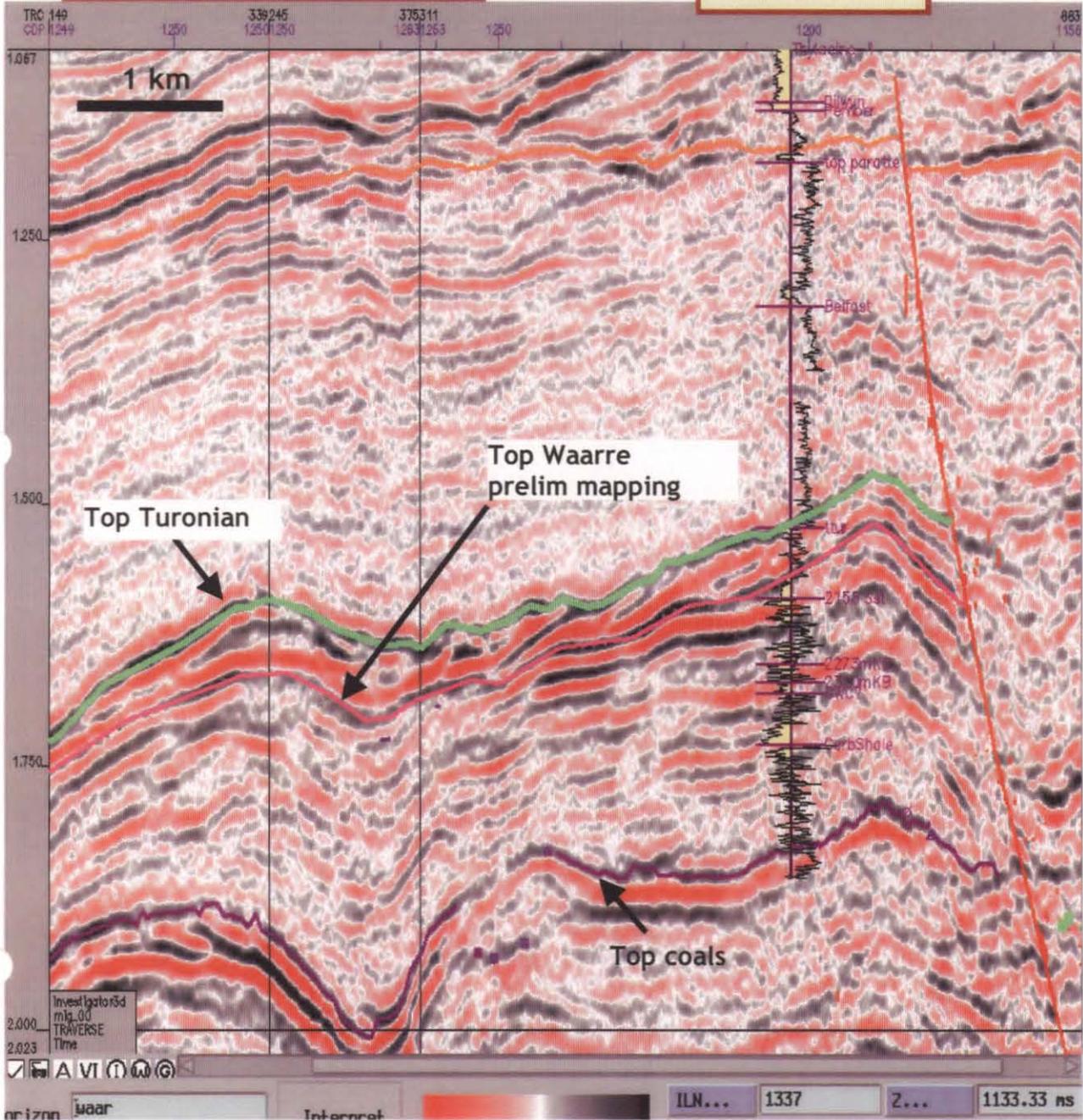
Figure 1

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Thylacine-2 (Proposed)

Thylacine-1

EAST →



CROSSLINE- TRAVERSE
THYLACINE GAS FIELD

5 cm

Figure 2

2. GEOLOGY & GEOPHYSICS

2.3 Previous Exploration

Only two wells had been drilled in the area encompassed by T/30P prior to Thylacine 1. Esso drilled Prawn A1 in 1967 and Whelk-1 in 1970. No hydrocarbon shows were recorded in either well.

The Benaris/Origin/Woodside Joint Venture acquired a 250 sq. km 3D seismic survey over the Thylacine Prospect in early 2000.

Thylacine 1 was drilled in May 2001 as part of a two well drilling program in the offshore Otway basin. Thylacine 1 encountered a 280 m gas column in the Flaxmans/Waarre Formation and was suspended as a future gas producer. Geographe-1, located 15 km to the north in VIC/P43 was also cased and suspended as a future gas producer in June 2001.

Drilling history in the eastern offshore Otway Basin is summarized in Table 1.

Well	Year	Operator	TD(m)	Status	Result
<i>Pecten 1A</i>	1967	Shell	2850	P&A	Gas show ,145 mcf from 17 m of tight Waarre
<i>Prawn A1</i>	1967	Esso	3193	P&A	No valid closure, good reservoir, poor seal
<i>Nautilus 1A</i>	1968	Esso	2011	P&A	Tertiary wedge play, no reservoir found
<i>Mussel 1</i>	1969	Esso	2450	P&A	Not drilled in crestal location
<i>Whelk 1</i>	1970	Esso	1466	P&A	No seal
<i>Triton 1</i>	1982	Esso	3545	P&A	Poor reservoir, no closure mapped to date
<i>La Bella 1</i>	1993	BHP	2710	GAS	Estimated 210 bcf OGIP
<i>Minerva 1</i>	1993	BHP	2425	GAS	Estimated 575 bcf OGIP
<i>Eric the Red 1</i>	1993	BHP	1875	P&A	No cross fault seal
<i>Minerva 2A</i>	1993	BHP	2170	GAS	Thick Waarre sand development
<i>Loch Ard 1</i>	1993	BHP	1397	P&A	No Top Seal for Waarre reservoir
<i>Conan 1</i>	1995	BHP	2175	P&A	Ineffective fault seal
<i>Champion 1</i>	1995	BHP	1882	P&A	upper Waarre absent, no cross fault seal
<i>Thylacine 1</i>	2001	Origin	2710	GAS	Gas discovery
<i>Geographe 1</i>	2001	Origin	2430	GAS	Gas discovery

Table 1: Drilling history in the eastern offshore Otway Basin.

2.2 Regional Geology

The Otway Basin is part of the passive margin that formed in response to rifting between Australia and Antarctica. Two Early and Late Cretaceous stages of rifting have been identified. The main period of rifting occurred at the end of the Cenomanian and continued to the Campanian. A dominant feature of the eastern Otway is the Shipwreck Trough (Fig. 3) set up by sinistral transtension along the Sorell Transfer Fault. Significant thickening of Late Cretaceous sediments is observed towards the axis of the Shipwreck Trough.

Economic basement for the eastern offshore Otway Basin is represented by the Late Albian, upper Eumeralla Formation, which is also regarded as the main source interval for the overlying Late Cretaceous sediments. Two distinct depositional sequences are interpreted in the overlying Late Cretaceous interval (Fig. 4 & 5). The oldest sequence comprises the lower part of the Waarre Formation, deposited during the Cenomanian to Turonian. This sequence thickens significantly into the Trough and deposition and preservation is dependant on the palaeotopography of the basin. Sedimentation appears to have been focused west and south of the Cape Otway High. The rift climax of this sequence was associated with growth along the Mussel Fault Zone and the Tartwaup Hingeline and resulted in a shallow marine transgression across low areas of the basin. The base of the marine sequence marks a change from dominantly lithic to quartzose sediment provenance, which continues throughout the rest of the Late Cretaceous section. Potential reservoir facies exist in the lower and upper portions of this sequence.

A significant unconformity occurs within the Waarre Formation separating the upper and lower sequences. The best reservoir facies are intersected in the low stand tract at the base of this upper sequence. Sedimentological analysis of the Minerva 2A core shows this section to comprise high-energy fluvial facies. Palaeotopography within the Shipwreck Trough is interpreted to be the primary control upon deposition. Sediment was sourced from the north and possibly the east in the southern part of the Trough where predominantly non-marine facies have been intersected in Prawn A1, Eric the Red 1 and Loch Ard 1 on the Prawn Platform. The Flaxmans Formation overlies the Waarre Formation and displays a clear progradational, offlapping character in the Thylacine-Geographe area and comprises a series of coarsening-upward deltaic sequences in Thylacine 1.

The Flaxmans Formation is overlain by the Belfast Mudstone, which represents the maximum flooding of the Shipwreck Trough during the main phase of rift climax. The Belfast Mudstone is preserved at its thickest within the Trough and forms an effective regional seal for hydrocarbons trapped within the Flaxmans and Waarre Formations. The Belfast Mudstone is overlain by the thick fluvio-deltaic Paaratte Formation, which represents the post rift portion of the upper sequence. The Paaratte Formation, in the Shipwreck Trough, consists entirely of distal marine shales up to the Maastrichtian where minor regressive interbedded sands occur.

Above the Base Tertiary unconformity, Early Tertiary sediments consist of the progradational fluvio-deltaic Wangerrip Group. The Wangerrip Group is overlain by the transgressive marine sediments of the Nirranda Group. These sediments consist of

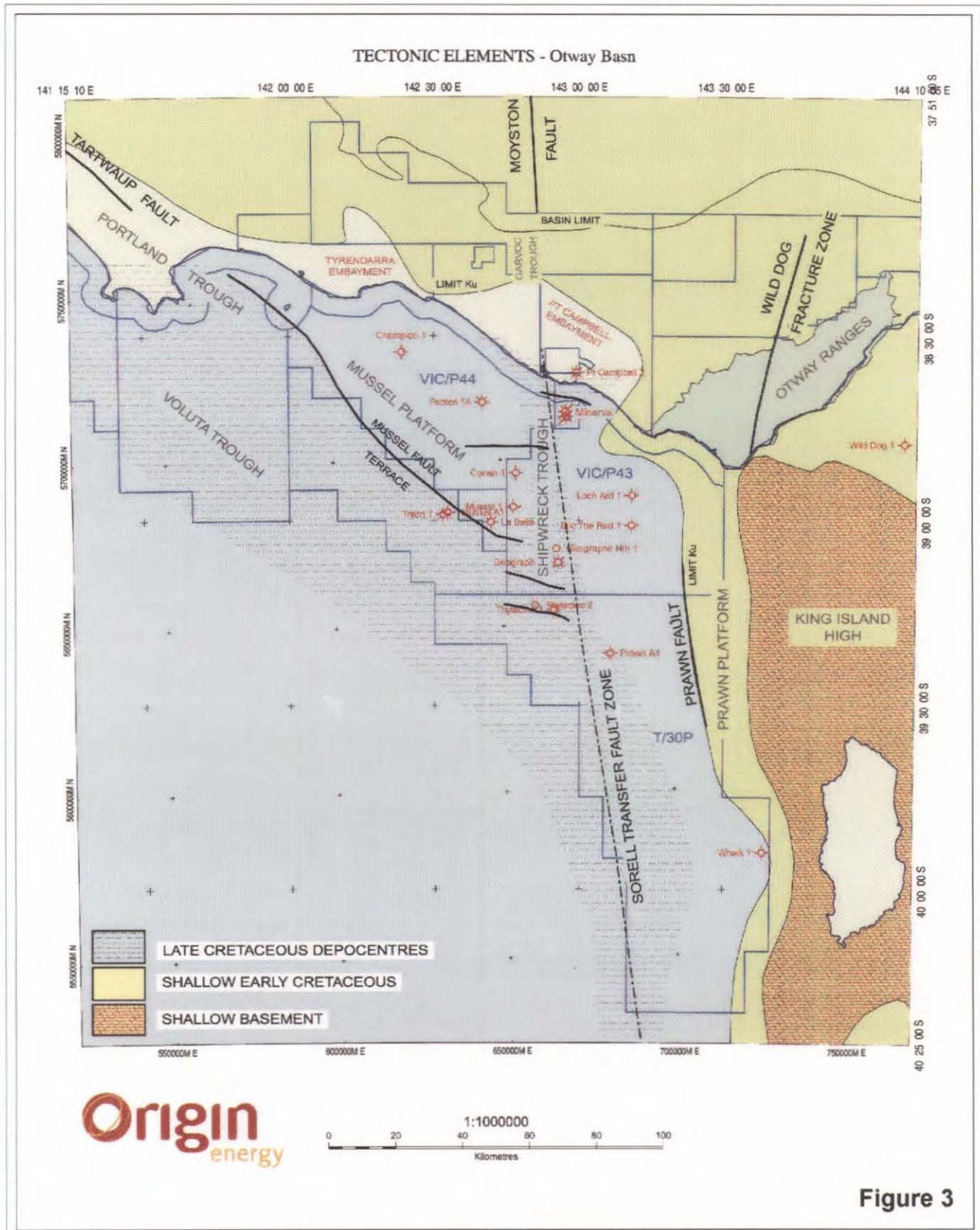
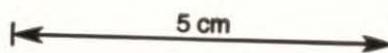


Figure 3





OFFSHORE OTWAY BASIN STRATIGRAPHIC COLUMN

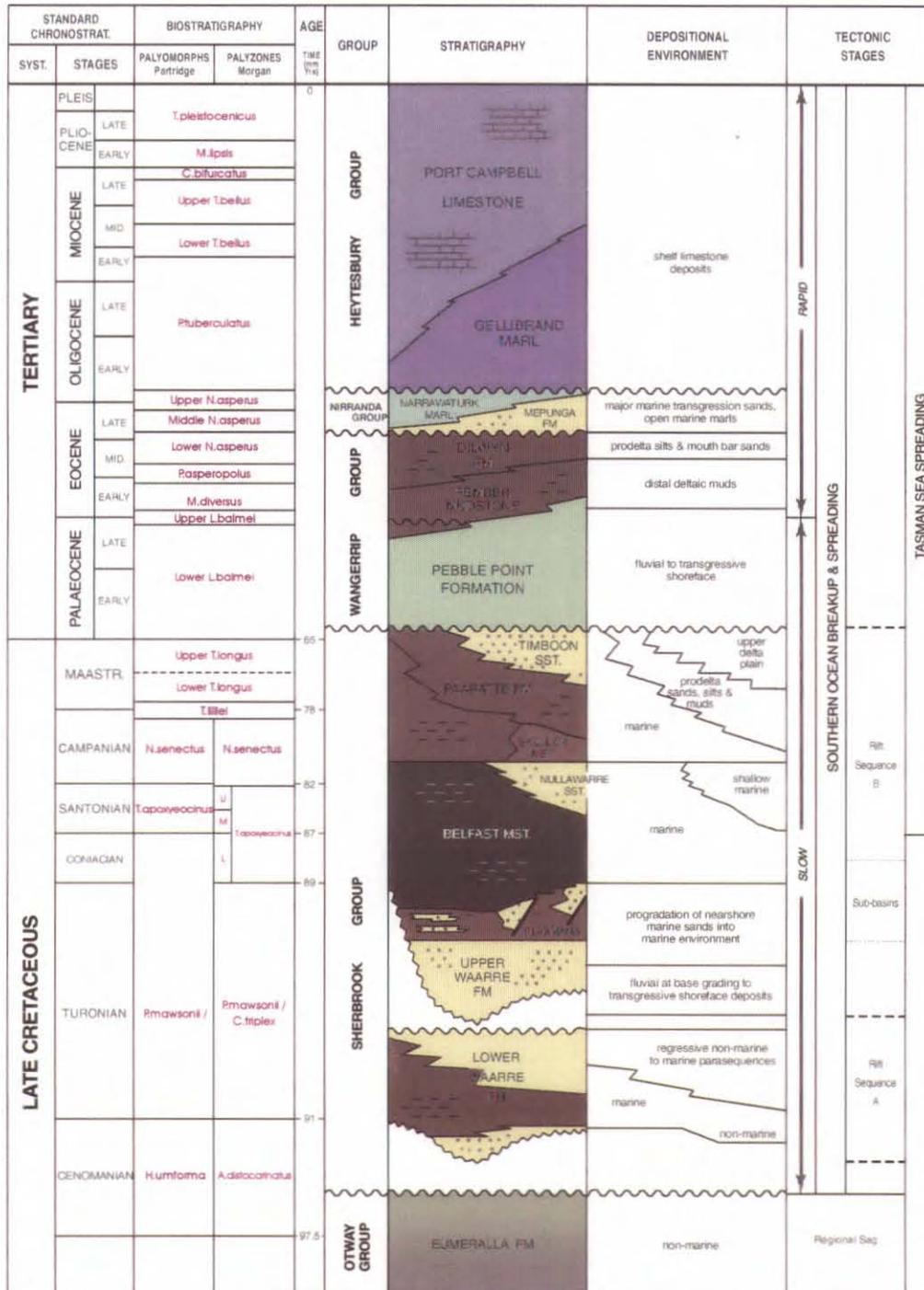
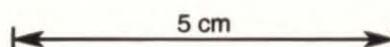


Figure 4



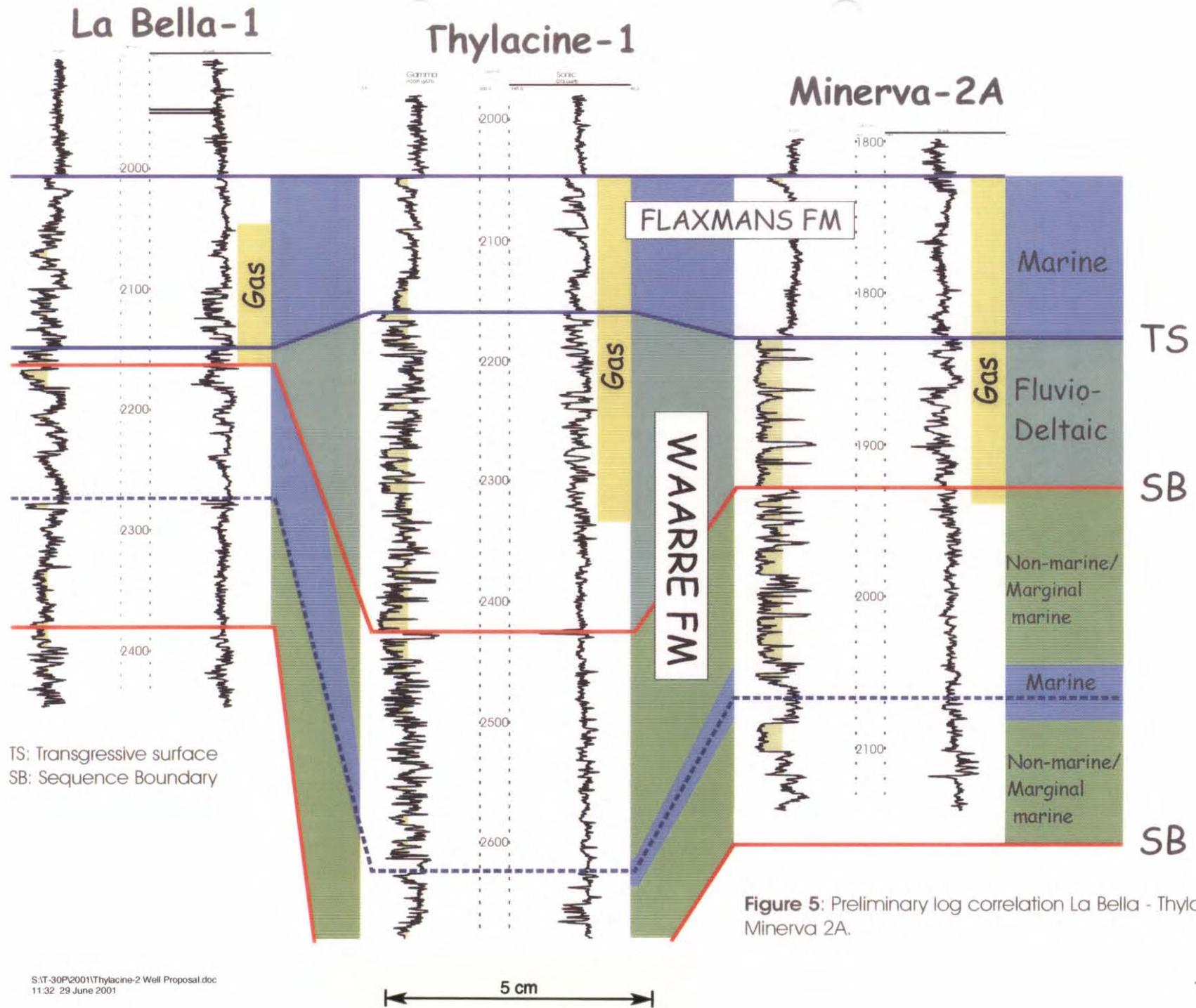


Figure 5: Preliminary log correlation La Bella - Thylacine 1- Minerva 2A.

TS: Transgressive surface
 SB: Sequence Boundary

coarse Mepunga Sandstone overlain by the Oligocene Narrawaturk Marl. Open marine carbonates of the Heytesbury Group overlie the Nirranda Group unconformably. The Gellibrand Marl consists of lower calcareous claystone/siltstone sequence overlain by marls and interbedded limestones. The Late Miocene to recent Port Campbell Limestone comprises the youngest sequence in the eastern offshore Otway Basin.

2.3 Seismic Interpretation

Seismic interpretation was carried out on the Investigator 3D cube acquired in the year 2000. 3D seismic data quality is generally good over the prospect and modern seismic attribute analyses have enabled accurate delineation of structure and amplitude anomalies. The Top Turonian objective is readily discernible over the prospect area and displays a 'soft kick' phase reversal where it is mapped within closure. Seismic quality at the base of the progrades (Top Waarre) is good in the area extending from Thylacine 1 to the middle of the Thylacine Structure.

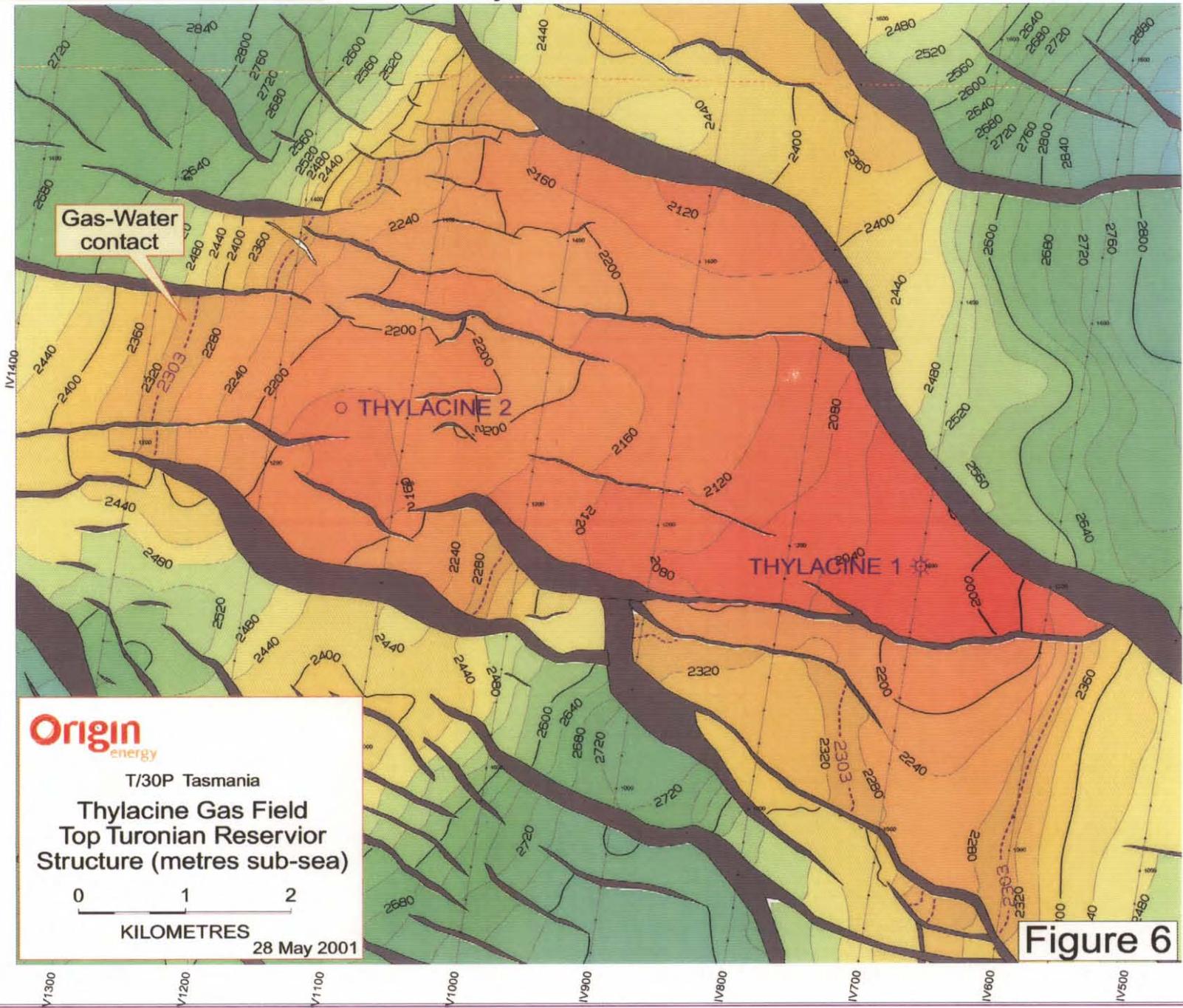
The Top Turonian defines the top of a progradational unit interpreted to be the age equivalent of the Flaxmans Formation (Fig. 2). The top Turonian depth structure map highlights the shape of the Thylacine Horst (Fig. 6). Structural spill is interpreted to the north of the prospect through fault juxtaposition of Flaxmans Formation sands against Waarre Formation sands in the footwall of the Thylacine Horst.

The western portion of the structure, targeted by Thylacine 2, requires correlation of intra Waarre seismic events through a saddle that exists immediately west of the central portion of the structure (Fig. 2). The Thylacine 2 location will address the uncertainty with picking intra Waarre events towards the western portion of the Thylacine structure.

Preliminary mapping at the Top Waarre level was conducted on a peak in order to differentiate, on seismic, two reservoir intervals identified at Thylacine 1 (Fig. 7). This horizon represents the interpreted boundary between the upper high amplitude (Flaxmans Fm) progradational unit and the fluvio-deltaic sands of the Waarre Formation. The Top Waarre at the proposed Thylacine 2 location is predicted to be the high amplitude trough above the preliminary mapped event (Fig. 7). The prognosed depth is less than that indicated by preliminary top Waarre map presented in Figure 8. Thylacine 2 will address the uncertainty in the seismic picking and enable a more accurate reserves estimation of the Thylacine structure.

Thylacine Gas Field

5 cm



Gas-Water contact

THYLACINE 2

THYLACINE 1

Origin energy

T/30P Tasmania
Thylacine Gas Field
Top Turonian Reservoir
Structure (metres sub-sea)

0 1 2

KILOMETRES

28 May 2001

Figure 6

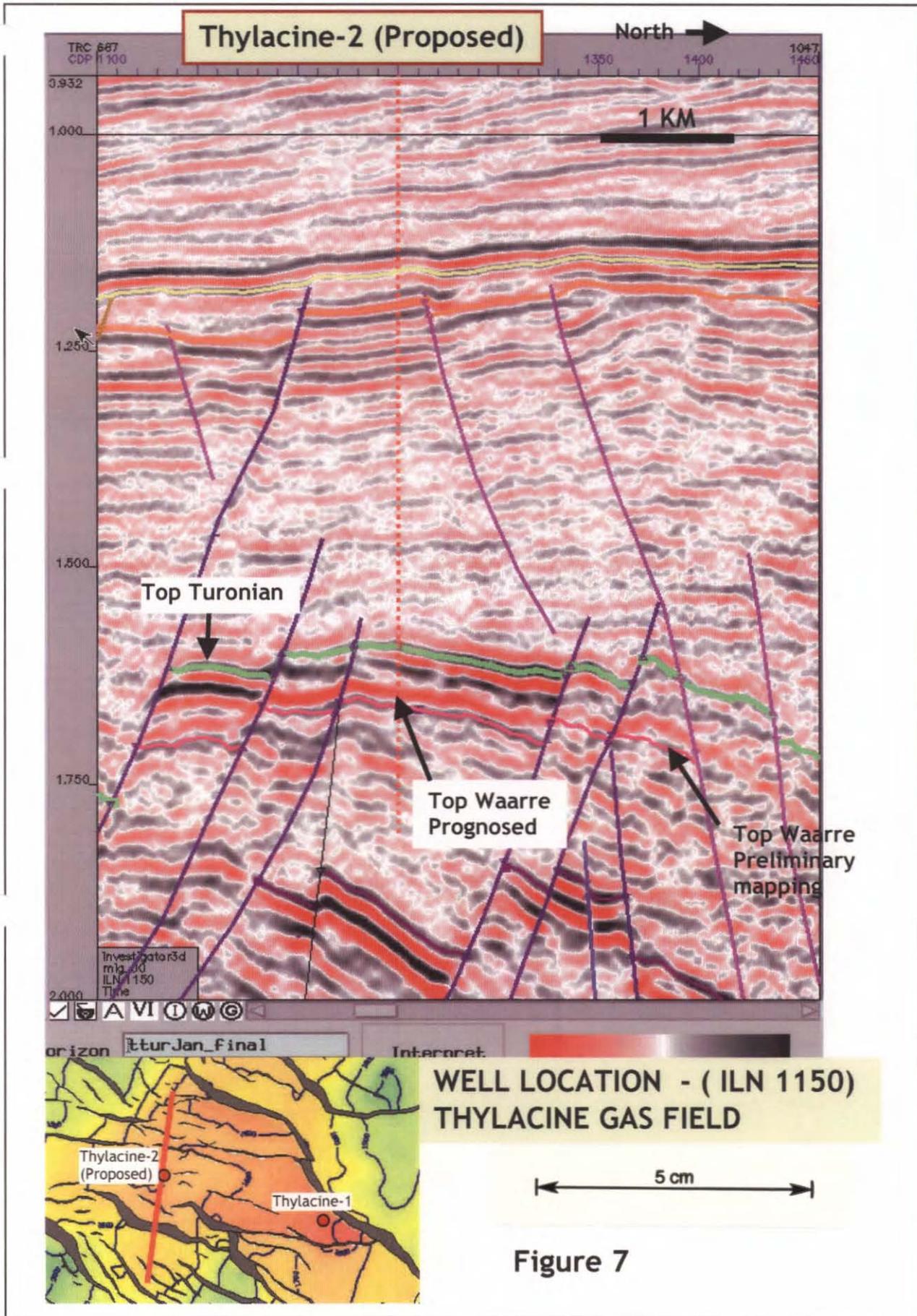
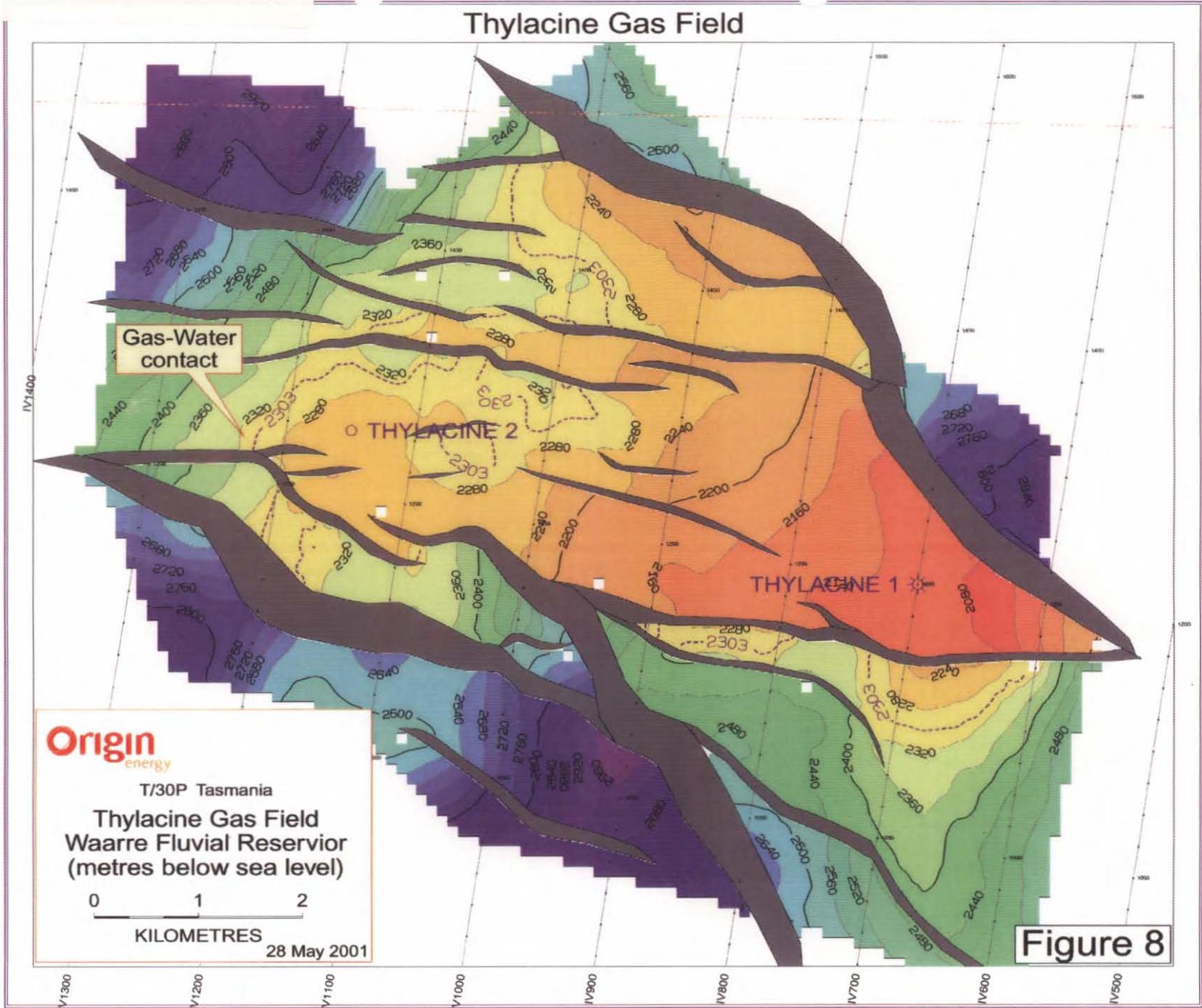


Figure 7

5 cm

Thylacine Gas Field



Gas-Water contact

THYLACINE 2

THYLACINE 1

Origin
energy

T/30P Tasmania

Thylacine Gas Field
Waarre Fluvial Reservoir
(metres below sea level)

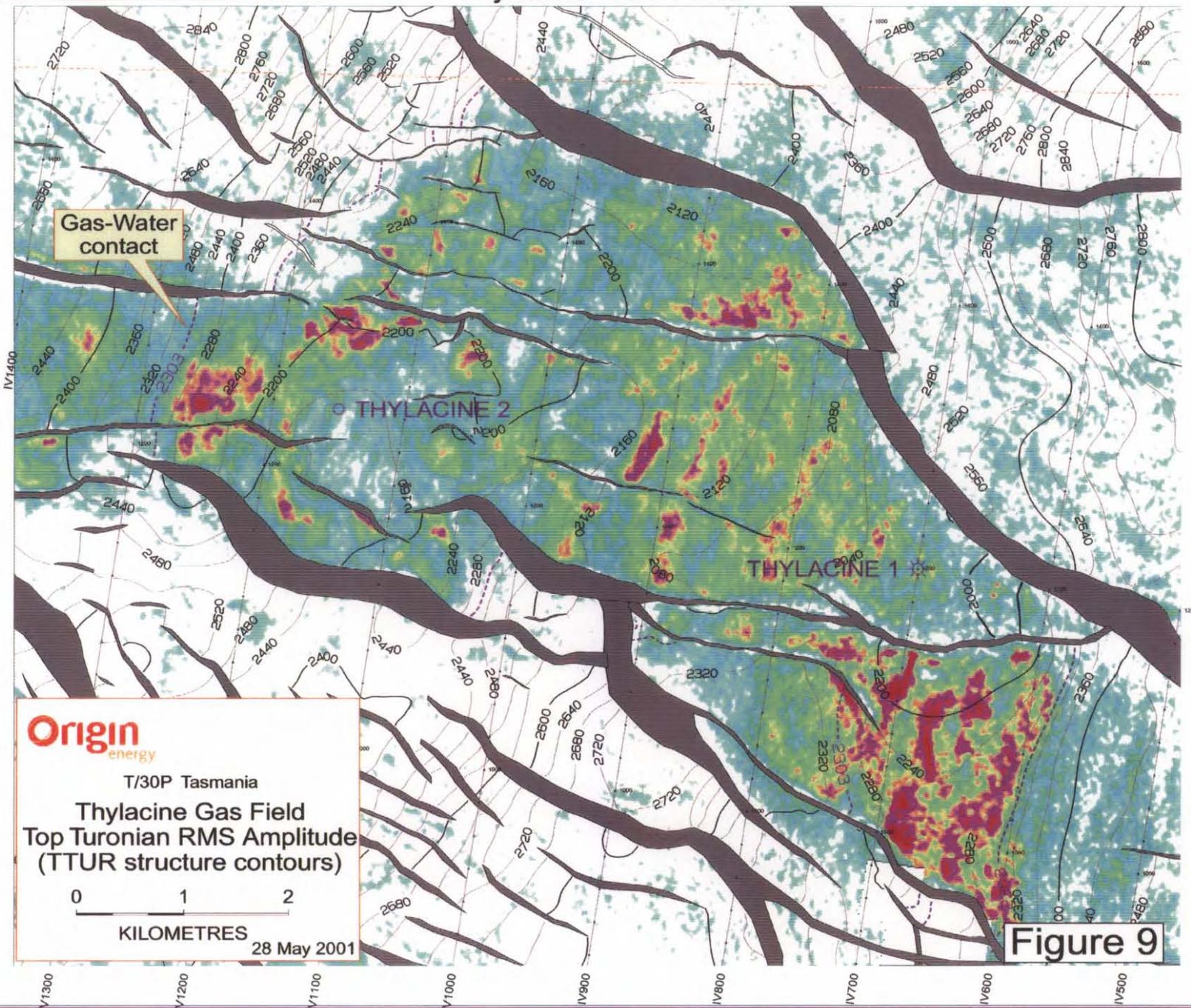
0 1 2
KILOMETRES

28 May 2001

Figure 8

5 cm

Thylacine Gas Field



Origin
energy

T/30P Tasmania
Thylacine Gas Field
Top Turonian RMS Amplitude
(TTUR structure contours)

0 1 2
KILOMETRES

28 May 2001

Figure 9

3. THYLACINE FIELD

3.1 Introduction

The Thylacine Field is contained in a structural closure developed on a major regional north-northeast trending ridge. Thylacine 1 was drilled near the crest of closure at the eastern extremity of the structure. Thylacine 2 is proposed on the western flank of the Thylacine structure, 5.7 km west-northwest of Thylacine 1. The well will target the Flaxmans Formation and the upper Waarre Formation where 152m of gas-bearing reservoir section is predicted to be intersected. Water depth is 101 m. All depths presented in this proposal have been interpreted by Origin Energy and may differ slightly from those interpreted by Woodside Energy in the Application to drill and drilling programme.

3.2 Thylacine 2 Objectives

The objectives of the Thylacine 2 well are:

1. Establish the presence of hydrocarbons in the western extension of the Thylacine Horst and establish resource volume more accurately than can be determined from Thylacine 1 alone.
2. Investigate reservoir development/deliverability in the area and provide a correlation with Flaxmans/Waarre Formation reservoir units in Thylacine 1.
3. Confirm predicted velocity trends, enabling more accurate field depth mapping.

3.3 Structure

The Thylacine structure is a composite horst developed on a north-northwest trending ridge. The horst is bounded by reactivated Early Cretaceous, subvertical, east-west trending normal faults coupled with Late Cretaceous north-west trending listric normal faults. The structure is fault-bounded to the north, east and south and pitches to the west (Figs. 6 & 8). The primary faults often penetrate up to the base of the Tertiary section. The crest is located at the eastern end of the structure (approx. 2000 m SS) in the vicinity of the Thylacine 1 location.

The Top Turonian seismic marker represents the top of the Flaxmans Formation reservoir section. The proposed well location lies on the crest of a small subculmination at the western edge of the structure (Fig. 6). The depth to the top Turonian (Flaxmans Fm) at the proposed well location is 2151 m SS, 152m above the GWC identified in Thylacine 1 at 2303 m SS. The GWC is expected to be intersected within the interbedded sandstone/shale section of the upper Waarre Formation.

3.4 Reservoir

The primary reservoir section targeted by the well is the Flaxmans Formation and the upper Waarre Formation, predicted to be intersected at a depth of 2151 m SS. These Formations were intersected in Thylacine 1 and a similar section is expected at Thylacine 2. Two distinctive reservoir sections are predicted (Fig. 5):

1. Flaxmans Formation (2151-2265 m SS): characterized by distinctive progradational seismic character (Fig. 2) and is expected to comprise a series of coarsening-upward sand packages (parasequences) separated by marine shale. This section correlates with the interval 2048.5-2160.8 m RT in Thylacine 1. The lower portion of this interval that directly overlies the fluvio-deltaic upper Waarre Formation is interpreted as a transitional facies and comprises argillaceous sandstone.
2. Upper Waarre Formation (2265-2303 GWC m SS): characterized by continuous parallel reflectors and expected to comprise a series of intercalated coarse-grained channel and fine-grained interdistributary bay facies indicative of a fluvio-deltaic depositional environment. This section correlates with the interval below 2160.8 m SS in Thylacine 1. This reservoir pay section is expected to continue below the GWC and to the TD of the well.

3.5 Seal

Thylacine 1 intersected a 344.5 m thick Belfast Mudstone and proved an extensive top seal exists over the Thylacine structure. The top of the Belfast Mudstone at this location is prognosed at 1780 m SS with a thickness of 371 m.

3.6 Amplitude Anomalies

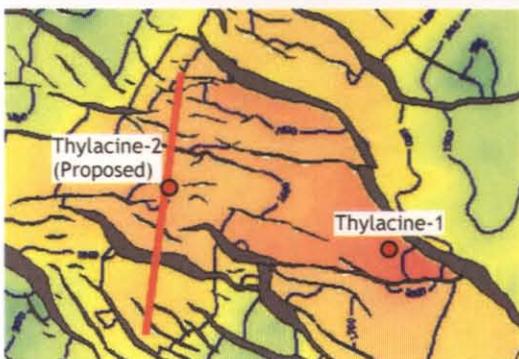
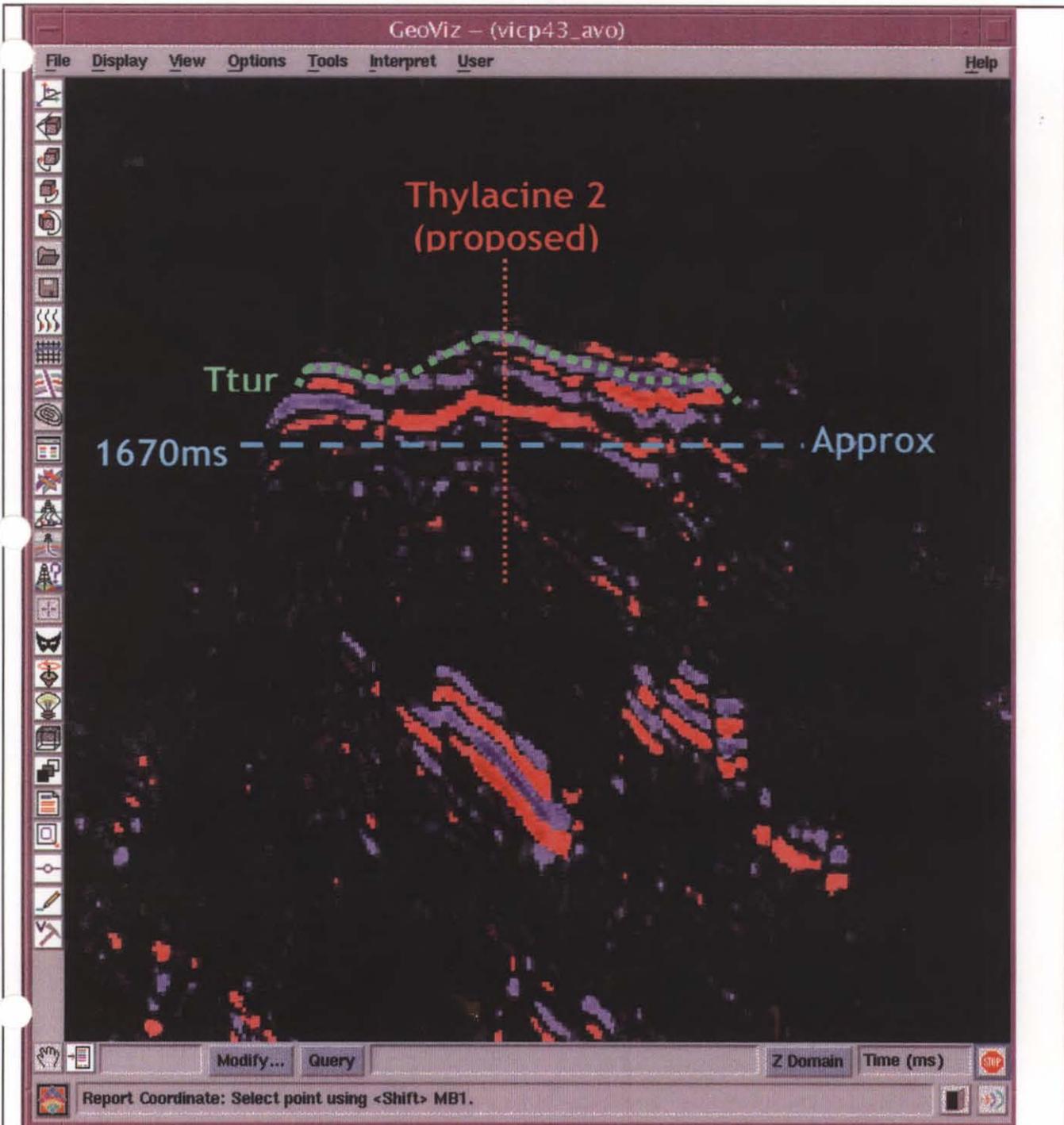
The Top Turonian (Top Flaxmans Formation) horizon is associated with an anomalously strong seismic amplitude over the central Thylacine horst, and in a lobe extending off the main horst to the south-east (Fig. 9). Thylacine 1 confirmed that this is the top of a gas-charged reservoir. The revised depth mapping following Thylacine 1 suggests that the amplitude distribution is an expression of a single field-wide GWC at 2303m sub-sea.

3.7 Depth Conversion

After Thylacine 1 was drilled, a revised depth conversion of the Top Turonian horizon was generated. The stacking velocities were calibrated to the average velocity from sea level to the Top Turonian at the well location. The calibration factor was a constant 93.7% and no other wells were used in the calibration. This produced a map that is highly consistent with the amplitude distribution, (Fig 9). It shows that the amplitude anomaly is almost perfectly contained by the contour defining the GWC at 2303m SS. According to the depth conversion the GWC, at the proposed Thylacine 2

location, corresponds to a time of 1670 msec TWT which corresponds in time with amplitude cutoffs on an optical stack centred on inline 1150 (Fig 10).

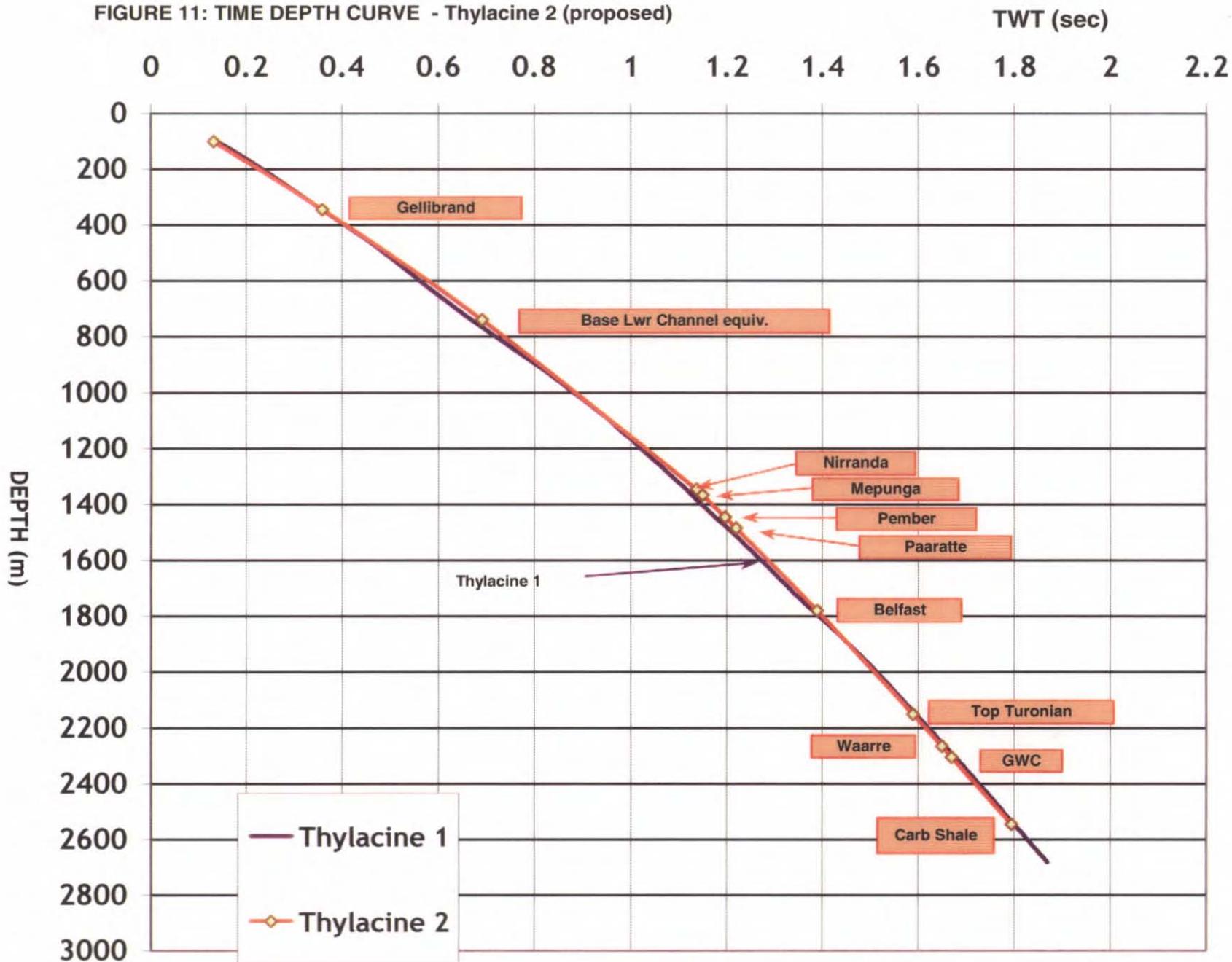
The depth prognosis for all other horizons in Thylacine 2 (Table 2, Fig 11), is based on the Thylacine 1 time-depth curve, with the constraint of the Top Turonian depth conversion and some allowance for the higher velocities in the Miocene canyon sequence at Thylacine 1. An uncertainty of $\pm 30\text{m}$ to the Top Flaxmans is estimated for the proposed Thylacine 2 location.



Inline 1150
Optical Stack Image

Figure 10

FIGURE 11: TIME DEPTH CURVE - Thylacine 2 (proposed)



S:\T-30P\2001\Thylacine-2 Well Proposal.doc
11:59 29 June 2001

5 cm

4. WELL LOCATION

Thylacine 2 is located in the northernmost portion of T/30P. The location is located approximately 5.7 km west-northwest of Thylacine 1 on Inline 1150 CDP 1250. The coordinates are 659 566 E and 5 656 221 N.

The location is proposed on the crest of a small subculmination on the western side of the Thylacine structure. The well has also been located away from interpreted faults to avoid production impairment.

4.1 Primary Objectives

The primary objective for Thylacine 2 is the Late Cretaceous Flaxmans Formation and upper Waarre Formation (Fig. 12) which hosted a 280m gas column in Thylacine 1. The Flaxmans Formation has a distinctive progradational seismic character, which may be indicative of progradational marine shoreline deposits. The upper Waarre Formation directly underlies the Flaxmans Formation and displays more continuous, parallel reflective seismic character. The reservoir is expected to be intersected at a depth of 2151 m SS and to have a thickness above the GWC of 152 m.

4.2 Predicted TD

The predicted TD for Thylacine 2 should be set at 2500 m SS. This depth equates to the target depth of 2450 m SS plus 50m of rat hole to allow wireline log coverage. A seismic event at approximately 2328 m RT (the base of the gas column) in Thylacine 1 was mapped across to the Thylacine 2 location. The depth of this seismic event at Thylacine 2 is estimated to be 2450 m SS. Therefore, in order to intersect the equivalent strata within the gas column at Thylacine 1, 299m of reservoir section must be intersected below the Top Turonian marker in Thylacine 2. Intersecting this correlative section in Thylacine 2 will enable the lateral continuity and variability of reservoir units to be determined. This information will be crucial for future development/appraisal planning.

4.3 Predicted Stratigraphy

A summary of the prognosis and predicted stratigraphy is included as Table 2 and Figure 12 respectively.

Port Campbell Limestone (99 - 345 m SS)

Calcarenites of the Port Campbell Limestone are expected in the upper part of the Heytesbury Group. The calcarenite consists of light grey to white, medium hard, fine to coarse grains with abundant fossils (corals, bryozoans, foraminifera) and trace to 3% glauconite.

Gellibrand Marl (345 - 1346 m SS)

The Gellibrand Marl consists of calcareous mudstone with minor sandstone, claystone and calcilutite. The calcareous mudstone is light grey, soft, fossiliferous, pyretic and carbonaceous. The calcareous mudstone is interbedded with thin units of yellow to white skeletal limestone which is micritic to granular, non-porous and hard. The base Miocene seismic event defines the top of the lower Gellibrand Marl where calcareous claystones and siltstones are expected. This event is an unconformity surface that forms localised canyons. The claystone and siltstone are light grey to light tan or buff with trace coal, mica and trace fine-grained sandstone. The calcareous units are interbedded with carbonaceous claystone and siltstone that are dark grey to brown, firm, non-calcareous and carbonaceous.

Nirranda Group (1346 - 1367 m SS)

The unit is dominated by calcilutite which is typically light grey, soft to firm with trace pyrite, glauconite and fossil fragments.

Mepunga Formation (1367 - 1414 m SS)

The Mepunga Formation defines the top of prograding coarse clastic sequence in the Lower Tertiary. The Mepunga Formation consists of medium to coarse-grained, poorly to well-sorted, sub-angular to well rounded quartzose sandstone. The sandstone is unconsolidated with abundant calcareous fragments and up to 30% fossiliferous material. The sandstone has an argillaceous matrix, and poor porosity.

Dilwyn Formation (1414 - 1446 m SS)

The Dilwyn Formation represents the upper part of the Wangerrip Group. The Dilwyn Formation consists of greyish brown to light grey medium to coarse-grained quartzose sandstone, sub-rounded, moderately well-sorted and brown to green claystone. The sandstone has trace to common iron staining with iron oxide pellets and has good to very good porosity.

Pember Mudstone (1446 - 1485 m SS)

Medium grey to dark grey silty claystone with minor bands of calcilutite.

Paaratte Formation (1485 - 1780 m SS)

The Paaratte Formation forms the upper part of the Sherbrook Group and the lower section herein includes the Skull Creek Mudstone. Dominantly claystone lithology is expected but may be interbedded with sandstone in the uppermost section. The claystone is dark to greenish grey and brownish grey, soft, dispersive and contains

glauconite and pyrite. Minor sandstone units interbedded with the claystone are typically quartzose, light grey coloured, very fine to medium-grained with scattered coarse grains.

Belfast Mudstone (1780 - 2151 m SS)

The Belfast Mudstone is a monotonous section of light to dark grey non-calcareous shale. It contains rare glauconite and pyrite.

Flaxmans Formation (2151-2265m SS)

This unit was intersected in Thylacine 1 and comprises interbedded sandstone and claystone in a series of coarsening-upward cycles. The sandstone is light grey to white, quartzose, friable, sub angular to subrounded, poorly to moderately sorted, siliceous cemented, fine- to medium-grained with an argillaceous matrix. The claystone at the base of the cycles is medium to dark grey, soft to firm with trace glauconite, pyrite and carbonaceous material.

Upper Waarre Formation (2265 - 2500 m SS)

This section was intersected in Thylacine 1 where it comprises a fluvio-deltaic sequence. The section consists of interbedded sandstone siltstone and claystone. Sandstone units vary in thickness, ranging up to approximately 10m. Sandstone units are quartzose, friable, moderately sorted and fine- to coarse-grained. The presence of quartz shards in many samples in Thylacine 1 suggest that granule- or pebble-rich intervals are also present.

Lower Waarre Formation

At the stage of writing this proposal, the depth of the contact between the upper Waarre and lower Waarre sequences is still unclear. It does appear, however, that the lithological section intersected is very similar to that of the upper Waarre sequence.

Upper Eumeralla Formation

The Eumeralla Formation is not expected to be reached in Thylacine 2.

The predicted stratigraphy for Thylacine 2 is shown in Table 2 and Figure 12.

THYLACINE-2

Inline 1150 CDP 1250

Easting: 659 566

Northing: 5 656 221

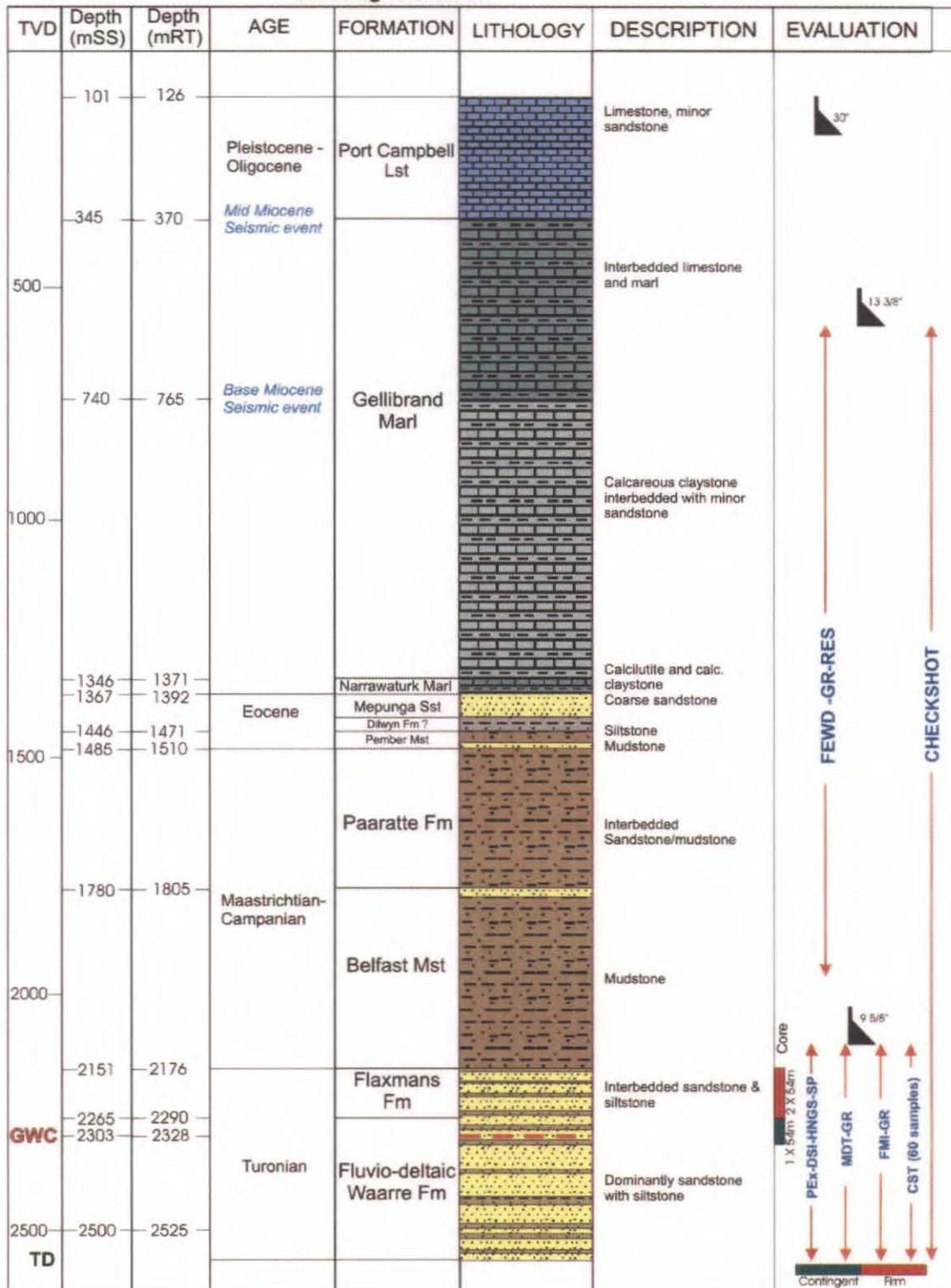
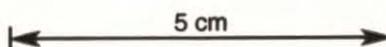


Figure 12: Predicted stratigraphy and evaluation programme for Thylacine 2.



5. RISKING

Total chance of success for the Thylacine 2 well is considered to be high. Seal, source and migration have been proven. The large thickness of reservoir section predicted to be above the GWC at Thylacine 2 indicates that the potential success of the well is not sensitive to changes in depth conversion and mapping. The main risk that needs to be flagged is the potential for poorer quality reservoir. This applies in particular to the Flaxmans Formation where reservoir quality may decrease to the west in an interpreted more distal deltaic depositional environment. This may become a problem if the well intersects the Top Turonian low to prognosis. In this case, the underlying higher net/gross, fluvio-deltaic Waarre is likely to be thin or even absent from the hydrocarbon column which may significantly affect the resulting productivity of the well. The Flaxmans Formation is predicted to comprise 114m of the total 152m gas column in Thylacine 2. Intersecting the Top Turonian 38m low or greater could potentially mean that the Waarre Formation is not present within the gas column.

6. EVALUATION

6.1 Logging and Sampling

The proposed logging program for Thylacine 2 is summarised in Table 4. As the FEWD tool will be run in the 12¼" section no open hole logs will be obtained over this part of the well.

	Tools	Interval	Comments
logging	FEWD (GR-RES)	12¼" section	Replaces open hole wireline logs over 12¼" hole.
	Run 1: PEx-DSI-SGR-SP-LEH-QT	TD – Surface Casing Shoe	<u>GR-DSI only</u> in cased hole section.
Wireline program	Run 2: MDT-GR-LEH-QT	TD to approx 50 m above reservoir	
	Run 3:FMI-GR-LEH-QT	TD to approx 50 m above reservoir	
	Run 4: Checkshot	TD to loss of signal	
	Run 5: SWC	Open Hole	Palynology/reservoir quality data

Table 4: Logging program for Thylacine 2

6.2 Coring

The objectives for the coring programme in Thylacine 2 are the following:

1. To acquire reservoir quality information over the Flaxmans Formation
2. To confirm the regional extent/lateral continuity of the lower fluvio-deltaic Waarre Sandstone reservoirs.

Point 1 is the key objective of the coring programme. The Flaxmans interval, not cored in Thylacine 1, contains a significant proportion of the total OGIP for the Field and therefore must receive further evaluation in this well.

Two firm 54m cores and 1 contingent 54m core are planned for Thylacine 2. It is proposed to run two 54m cores from the top of the Flaxmans Formation. Coring will commence upon the first indication of gas-saturated sandstone at the top Turonian stratigraphic level. This should be determined by ROP. If the following criterion is met coring should commence:

- A three-fold increase in ROP and/or significant increase in total gas composition upon circulating cuttings to surface.

If the base of the second core lies 30m or greater above the GWC (i.e. 2298m RT or shallower) then the third core should be taken.

7. REFERENCES

LUXTON, C.W., HORAN, S.T., PICKAVANCE, D.L. & DURHAM, M'.S., 1995. The La Bella and Minerva gas discoveries, offshore Otway Basin. *Australian Petroleum Exploration Association Journal* **35(1)**, pp.405-417.