Santos Ltd
ABN 80 007 550 923
Ground Floor, Santos Centre
60 Flinders Street
Adelaide SA 5000

Offshore Southern and Western Exploration
GPO Box 2455
Adelaide SA 5001
Telephone: 08 8116 5000
Facsimile: 08 8116 5050

Santos

4 February 2009

Dr A V Brown
Director of Mines
Department of Infrastructure, Energy and Resources
Mineral Resources Tasmania
PO Box 56
ROSNY PARK TAS 7018

Dear Dr Brown,

Re: Exploration Permit T/32P – Seismic Interpretation Report

Santos Offshore Pty Ltd as Operator of Exploration Permit T/32P hereby submits the SOSN06B Seismic Interpretation Report

If you have any questions please do not hesitate to call me on 08 8116 7866

Yours sincerely

Paul Strong

Paul Strong
Exploration Manager, Eastern Australia

Cc: M Bowyer - Perenco (Oil & Gas) International Limited
S Ingarfield - Mitsui E&P Australia Pty Ltd

Santos

Seismic Interpretation Report

Exploration Permit T/32P

SOSN06B 2D Seismic Survey

February 2009

Table of Contents

Introduction

The SOSN06B 2D Seismic Survey was acquired by Santos in 2006 as part of the work commitment for the Permit Year 4. Acquisition was completed in June 2006, using the Pacific Titan seismic vessel. Processing was undertaken by Fugro Seismic Imaging Pty Ltd and was completed in October 2006.

The SOSN06B 2D seismic survey consisted of 18 lines, totalling 827.950 km of 2D seismic, over the T/32P exploration permit (Figures 2 & 3).

Permit History

Exploration Permit T/32P in the Sorell Basin was awarded to Santos Ltd and Unocal South Australia Pty Ltd on 22 August 2002 for an initial term of 6 years (Figure 1).

In 2005 Unocal South Australia Pty Ltd was taken over by Chevron Australia (SE Australia) Pty Ltd. On 14 February 2006 Mittwell Energy Resources P/L acquired a 25% share of the Santos Ltd and Unocal South Australia Pty Ltd interest.

On 31 July 2007 formal notification was received that Mittwell Energy Resources Pty Ltd has completed assignment of its 25% interests in the T/32P Joint Venture to Mitsui E&P Australia Pty Ltd.

On 3 July 2008 notification was received that Perenco (SE Australia) Pty Ltd purchased Chevron Australia (SE Australia) Pty Ltd

The permit is assessed to contain 79 whole or part graticular blocks covering an area of approximately 1561 km^2 (GDA).

Santos Ltd is Operator of the Permit. The current interest holders in the permit are:

Company	Percentage Interest
Santos Offshore Pty Ltd	37.5%
Perenco (SE Australia) Pty Ltd	37.5%
Mitsui E&P Australia Pty Ltd	25%

The work program for the primary commitment (Years 1 to 3) and the secondary contingent term (Years 4 to 6) is set out in the following table:

PERMIT YEAR (Commencing)	PRIMARY WORK PROGRAM	INDICATIVE EXPENDITURE
One *(22 August 2002)*	500km 2D seismic survey Geological and Geophysical Studies Acquisition of multiclient uplift and remaining client data	$1,800,000
Two *(22 August 2003)*	Geological and Geophysical Studies	$500,000
Three *(22 August 2004)*	Geological and Geophysical Studies	$500,000
	TOTAL FIRM PROGRAM	$2,800,000
PERMIT YEAR (Commencing)	**SECONDARY WORK PROGRAM**	**INDICATIVE EXPENDITURE**
Four *(22 August 2005)*	800km of 2D seismic acquisition Geological and Geophysical Studies	$2,040,000
Five *(22 August 2006)*	Geological and Geophysical Studies	$500,000
Five *(18 August 2007)*	Controlled Source Electro Magnetic marine survey	$3,000,000
	TOTAL SECONDARY PROGRAM	$5,540,000

Exploration History

Described below are the results of the offshore wells closest to the T/32P exploration permit. Well completion reports issued by the Operator and the updated interpretation of seismic data provide the primary source of information for detailing the exploration history. No wells to date have been drilled on the permit.

Prawn-A1 (Esso, 1967). Intersected 712m of Waarre Formation equivalent. Measured porosities in the sandstone exceeded 20% with permeabilities up to 235 mD.

Clam-1 (Esso, 1969). Tested structural closure of the basal Tertiary and updip pinchout of Cretaceous sediments against the Clam High. Good reservoir sandstones with porosities up to 20% were intersected. Clam-1 reached a depth of only 1592m, intersecting Devonian conglomerates on Pre-Cambrian metamorphic basement. The penetrated sedimentary section is immature for hydrocarbon generation.

Whelk-1 (Esso, 1970). Drilled an anticlinal closure 120 km north of Clam in the southern Otway Basin to test anticipated Waarre Formation sandstones with good reservoir characteristics. Although 94m of Waarre Sandstone was intersected, top seal (Belfast Mudstone) lithologies were not developed.

Thylacine-1 (Origin, 2001). Successfully tested a mapped Waarre Formation closure, with associated amplitude anomaly. It encountered gas within the Thylacine/Flaxman/Waarre section.

Geographe-1 (Origin, 2001). This well was a successful test of a mapped Waarre Formation closure, with associated amplitude anomaly. It encountered gas within the Thylacine/Flaxman/Waarre section.

Geographe North-1 (Origin, 2001). This well drilled as a follow-up test of Geographe-1 was a dry hole (no full stack amplitude anomaly).

Thylacine-2 (Origin, 2001). This well was an appraisal to follow up success at Thylacine-1.

Jarver-1 (Santos, 2008). This well is not yet open file.

Geology and Hydrocarbon Prospectivity

The Sorell Basin formed during oblique rifting between the Australian and Antarctic continents in the Late Cretaceous and is considered to be a southern extension of the Otway Basin. While relatively open ocean conditions existed to the north and west in the Otway Basin, a restricted marine embayment was formed in the Sorell region, bounded to the southeast by a land-bridge between the two continents, which did not separate until the Eocene.

Late Cretaceous reservoir sandstones, belonging to the Waarre Formation, Flaxman Formation and Thylacine Sandstone Member, form the main productive zones within Otway Basin fields such as Casino (Santos-operated), Minerva, La Bella, Thylacine and Geographe, located north of the deep water acreage trend. These sandstones exhibit excellent reservoir quality with average log porosity in the range of 15-28% and permeabilities of up to 8 Darcies.

These sandstones are mapped extending southwards into Santos' deepwater permits. Deposition of coarse-grained siliciclastics in the Turonian-Santonian is associated with periodic fluvio-deltaic pulses into an overall upwards-deepening/fining section (Belfast Mudstone), providing an effective reservoir-seal couplet. Regional regression in the Campanian led to renewed coarse-grained, fluvio-deltaic input to the basin as the Paaratte and Timboon sandstones. Potential sealing sequences of the Skull Creek and Timboon mudstones and the Massacre Shale are observed to thicken into the basin. Mild structural inversion in the latest Cretaceous was followed by rapid subsidence and transgression resulting in retrogradation of the deltaic systems and deposition of the Wangerrip Group in the Palaeogene. Eventually the marginal sedimentary systems were drowned and, in association with the opening of the seaway in the late Eocene and subsequent formation of the Circum-Antarctic current, deposition came to be dominated by cool-water carbonates that persist to present day.

Nine offshore discoveries have been made in the Otway Basin to date proving in excess of 1.6 TCF recoverable gas. These discoveries have been full to spill, with liquids content increasing generally from north to south. Hydrocarbon charge in the basin is considered to come from Albian-aged, Eumeralla Formation source rocks.

Discussion of Seismic Record Quality

Most of the SOSN06B seismic data is of good quality, with relatively high signal:noise and most faults clearly imaged. However, in the north-east of the permit (Figure 9), the noise content is higher and the imaging less clear.

Depth sections were also created as part of the processing sequence by depth-stretching the TWT stack sections using the stacking velocities. An example of their use is to give an image of the seismic with the exaggerated TWT dip on the seafloor corrected by the depth-stretch.

The SOSN06B seismic data is of comparable quality to the reprocessed SS02 and DS01 seismic data (Figure 7).

Seismic Mapping

Area and Data Mapped

The new SOSN06B seismic data infilled the existing (Fugro) multi-client DS01 and Santos-acquired SS02 data. This SOSN06B data was spread across the permit, covering three prospects or leads already identified, namely the Wolseley Prospect, Savage Lead and Traegar Lead, with a higher line density over the Wolseley Prospect. The new data was incorporated into the existing interpretation.

Interpretation Methodology

Geoframe IESX was used in the structural interpretation of this seismic data. Well synthetics were created in Geoframe for the Thylacine, Geographe, Prawn (Figure 5), Whelk (Figure 6) and Clam wells, and the correlations taken into T/32P using the existing regional seismic lines. Less continuous seismic events such as the Thylacine were interpreted by bracketing/constraining the formation with more consistent chronostratigraphic horizons such as the Belfast and Waarre sequence boundaries (K90 & K77) and using the typical character of the formation (eg. Thylacine deposited on an unconformity).

Seismic interpretation was undertaken using the all-offset pre-stack time migrated volumes. The new SOSN06B data was interpreted in conjunction with the reprocessed DS01 and SS02 data.

Horizons Interpreted

Key horizons interpreted include the water bottom (WB), top Wangerrip Group (T20), base Tertiary (T1), top Belfast (K90), and base Belfast (K85) which is roughly equivalent to top Thylacine (K84LS) in this area.

Depth Conversion

Depth conversion was undertaken in Petrosys using seismic stacking velocities extracted from WB to the target intervals. Stacking velocities from SOSN06B, SS02 (reprocessed) and DS01 (reprocessed) are all comparable and tie quite well at line intersections.

Structure Maps Prepared

Structure maps prepared include the Water Bottom (WB), Base Tertiary carbonates (T20T) and Base Belfast (K85) depth maps (Enclosures 1-3).

Play Types

The key play type targeted in this permit is Cretaceous in age, with Late Cretaceous Thylacine Member reservoirs and Belfast or Skull Creek top seals, and hydrocarbons sourced from the Eumeralla or Waarre coals, within faulted structural traps. These plays have been proven in the Otway Basin fields to the north. Secondary reservoir targets of Flaxman and Waarre Formations are also possible.

Leads and Prospects

Wolseley

The largest lead or prospect in the permit is the Wolseley Prospect, which was identified as a lead during gazettal evaluation on the multi-client DS01 seismic data, and further delineated by the SS02 seismic data. Wolseley is a large faulted anticline, targeting Thylacine Member reservoirs within four-way dip closure. Wolseley exhibits a large area of elevated amplitude, which extends beyond the current day anticlinal closure.

The SOSN06B 2D seismic survey included several lines oriented along the major fault blocks of the Wolseley Prospect, oblique to the existing seismic grid. These were placed to image the amplitude variation over Wolseley, without crossing faults. Several of these lines were targeted at a possible structurally conformable down-dip amplitude termination on the Wolseley structure, which was thought to be a possible DHI. While the new seismic shows that this down-dip amplitude termination still has some structural conformance, it also reveals that both the down-dip and up-dip amplitude terminations would have been at roughly the same structural level during the latest Cretaceous, which could indicate a palaeo flat spot (Figure 8). If these terminations are the result of the palaeo-accumulation from the latest Cretaceous, the structure would have had ~250m of vertical relief at that time, similar to the column heights encountered in the Otway Basin fields to the north. At current day, Wolseley would have ~700m relief from the top of the structure to the base of the amplitude, which is at or beyond the estimated limits of top seal capacity. Hence, the amplitude may not indicate the extent of a current day accumulation. If a hydrocarbon pool was in place in the latest Cretaceous, it would need to survive the substantial tilting of the structure to its present configuration. However, since there is still a significant anticlinal closure on the Wolseley Prospect at present day, there is the possibility that gas remains in place, but has simply moved over time. 3D seismic might help identify if there are any hints of a current day accumulation on the structure, as such DHIs would be quite subtle, due to the palaeo anomaly obscuring any current day DHIs.

An alternate explanation to the amplitude distribution is that of discrete stratigraphically trapped accumulations. This possibility cannot be adequately evaluated on the 2D seismic data.

Savage

The Savage lead in the south of the permit targets the same Thylacine-equivalent reservoir as Wolseley, but is thought to be a low-side fault closure. This has an amplitude anomaly which roughly conforms to three-way closure against the fault.

Interpretation of the SOSN06B seismic has not significantly changed the size or trap style of the Savage Prospect. However, it now fits within the greater Wolseley closure, separated from Wolseley by an area of low amplitude and changed seismic character, which suggests an absence of reservoir. Unfortunately, as it is located in 2250m of water depth, it is not large enough to drill in its own right, but would be an attractive follow-up opportunity if a discovery was made at Wolseley.

Traegar

The Traegar lead in the north of the permit targets the Thylacine Member reservoir in what appears to be a faulted anticline. Prior to the SOSN06B seismic data, this lead was defined by only three lines. On the previous data, Traegar exhibited an amplitude anomaly over the anticline, as well as having a possible flat spot visible on one line.

With the tighter seismic line spacing provided by the SOSN06B data, it appears that the event mapped previously as Thylacine Member is likely a deeper stratigraphic unit. The amplitudes observed previously may in fact be related to the Eumeralla Formation, where volcaniclastics and coals give a high acoustic impedance contrast.

There is still a structural closure at Thylacine level in the Traegar area, however on the new mapping, there is no amplitude present at Thylacine level (Figure 9), and the elevated amplitude at the deeper level does not appear to conform to structural closure. As a result, Traegar is no longer considered a robust lead.

Conclusions

The SOSN06B seismic data is comparable quality to reprocessed DS01 and SS02 seismic data.

Interpretation of the SOSN06B seismic data and incorporation into the regional grid has led to a better understanding of all three leads and prospect. Unfortunately, this has increased the risk on the Traegar Lead, by showing that the amplitude is most likely related to the high acoustic impedance contrast of the Eumeralla Formation, rather than hydrocarbons. Additionally, identification of a possible palaeo flat spot on Wolseley has changed the risk profile for this prospect. If this is indeed a palaeo DHI, then the risk on charge has reduced, but the risk on preservation (seal integrity) has increased significantly. The new seismic has better defined the Savage Prospect, but otherwise has changed little. 3D seismic is required to reduce the preservation risk on the Wolseley Prospect and mature it to drill-ready status.

Figures

Permit Location Map

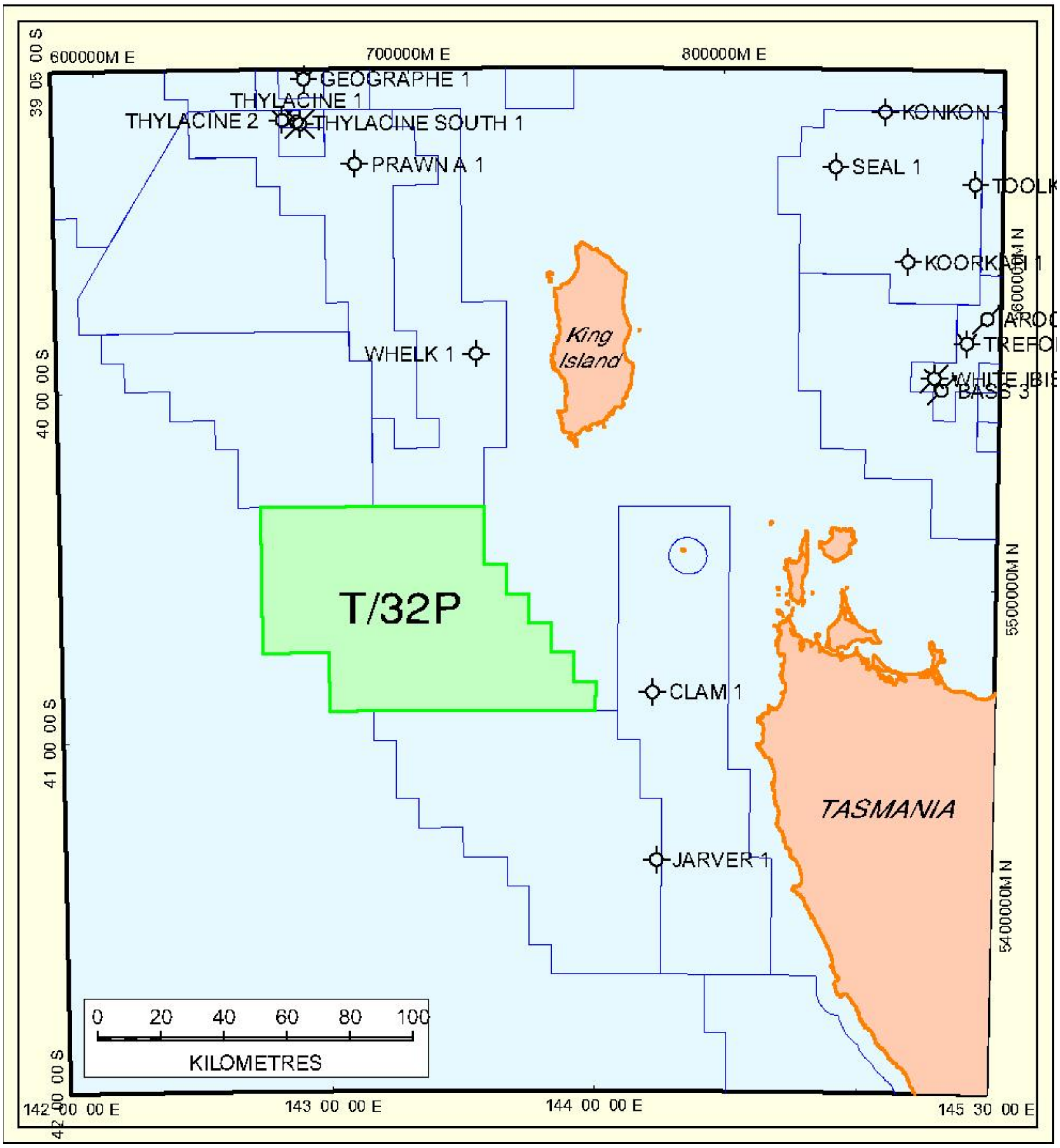

Figure 1. Permit Location Map

Data Location Map

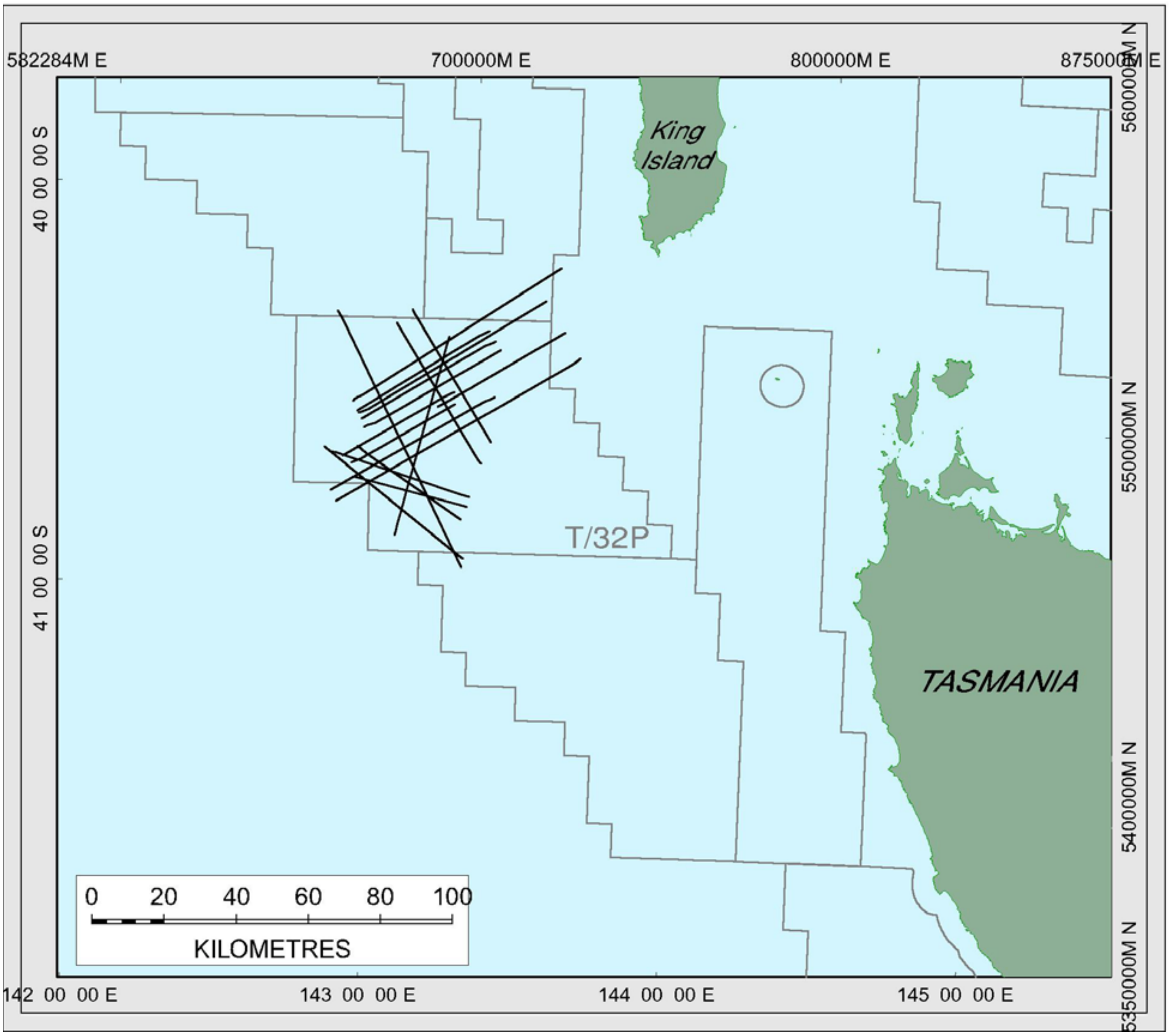

Figure 2. Seismic Survey Location Map

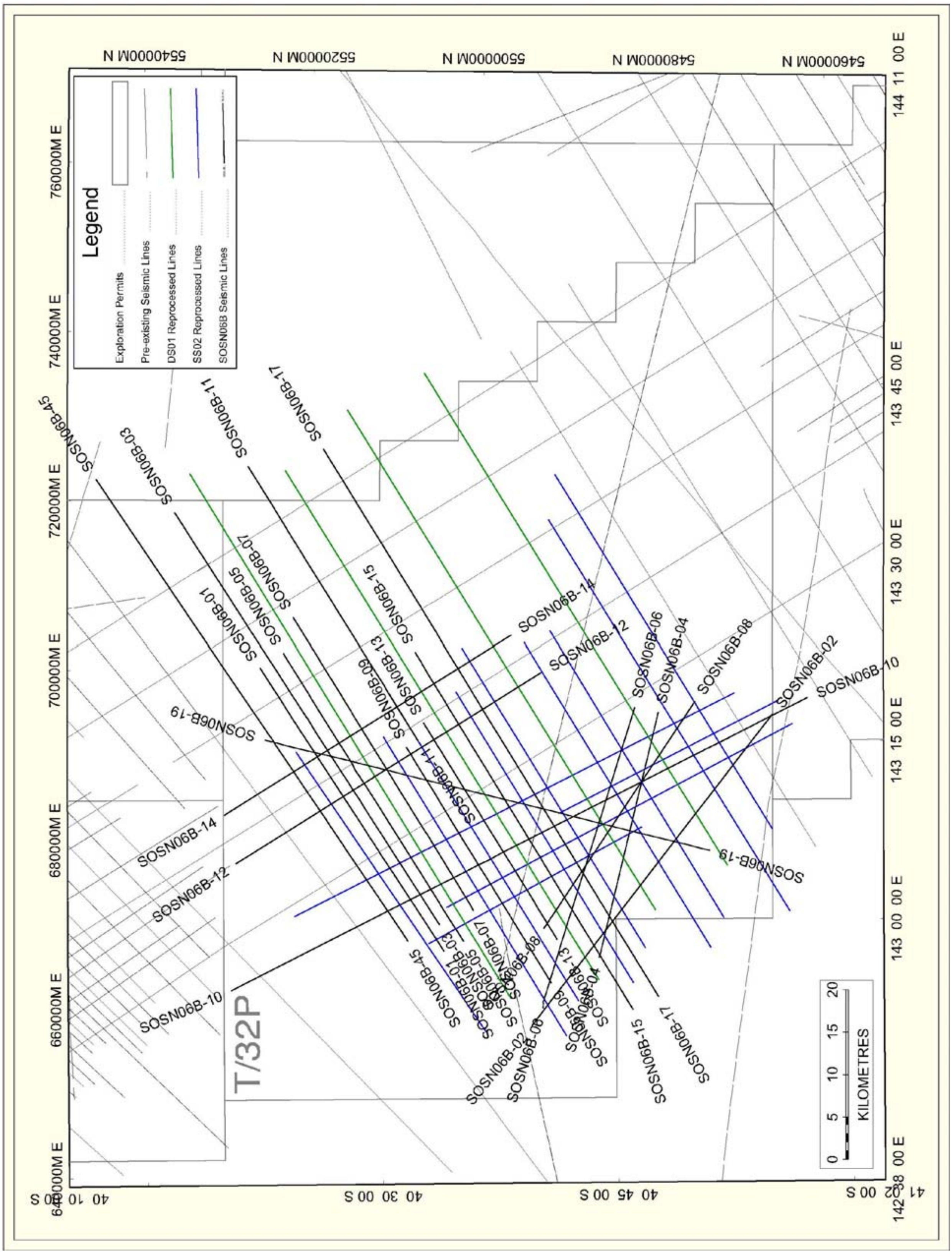

Figure 3. Detailed Line Location Map

Stratigraphic Chart

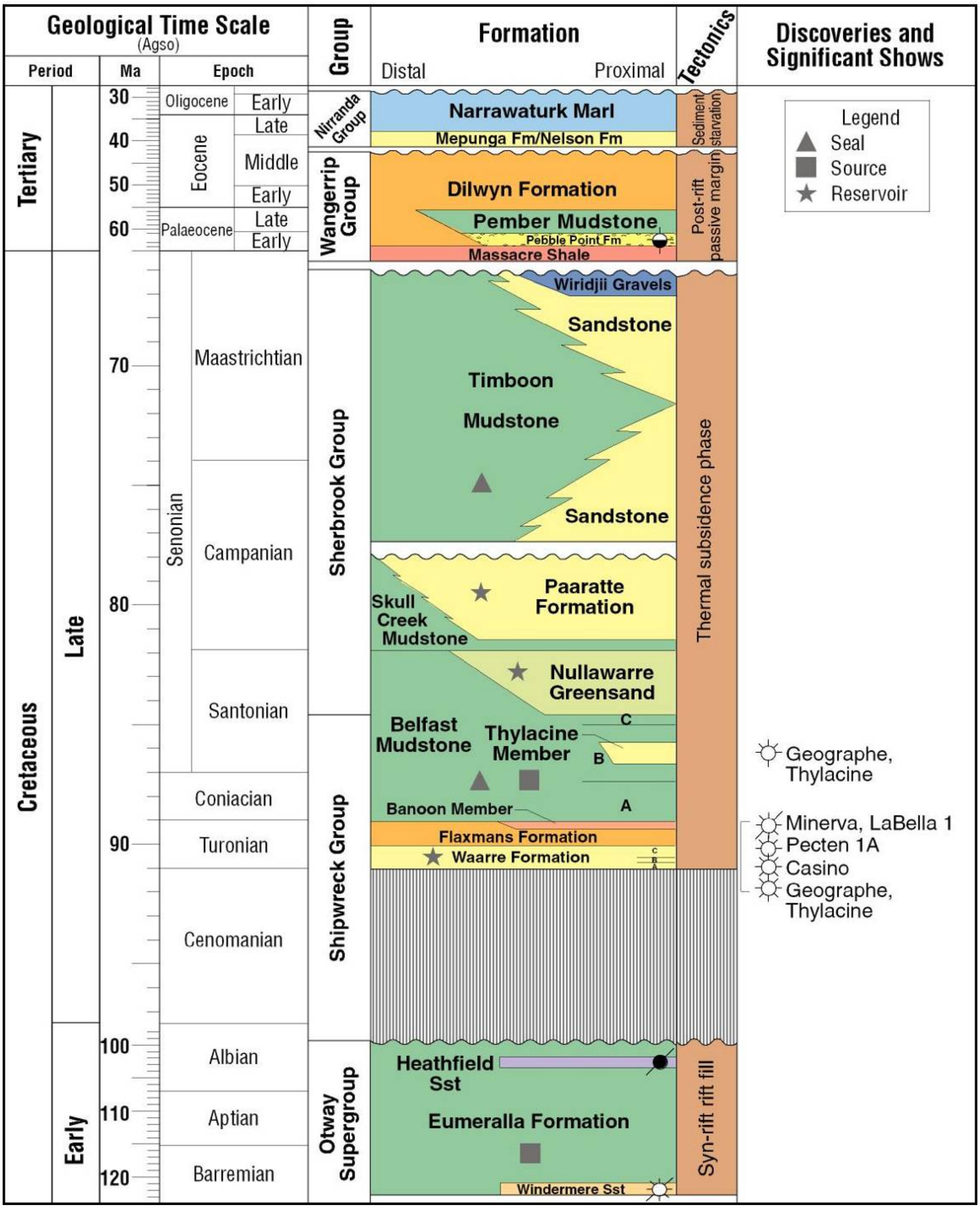

Figure 4. Stratigraphic Chart

Synthetic Seismograms

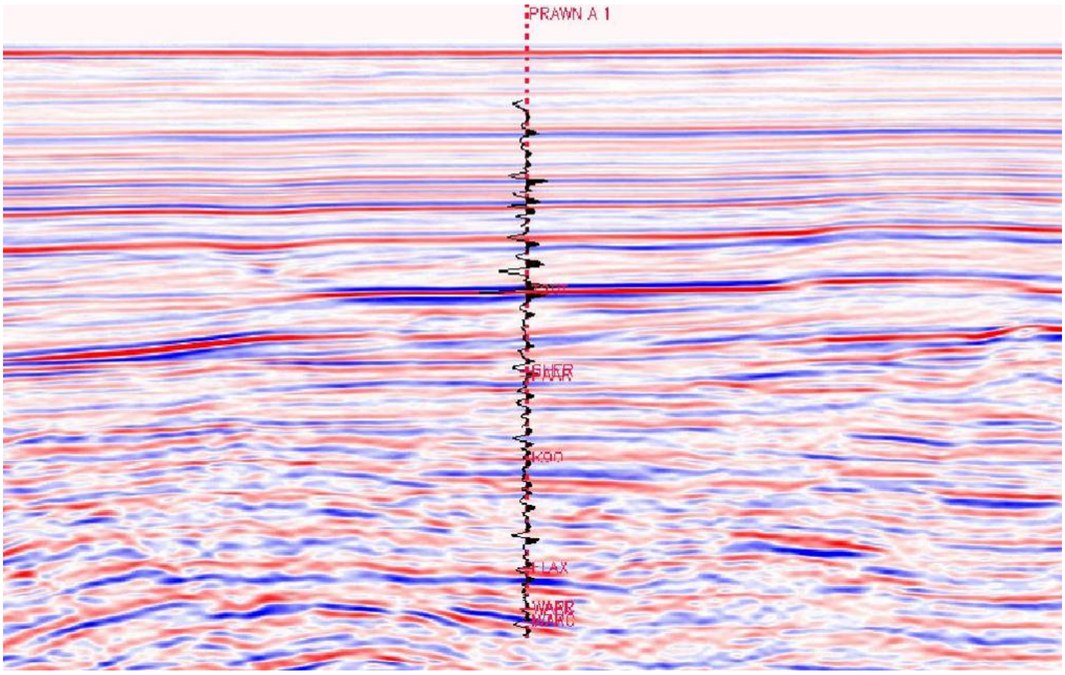

Figure 5. Synthetic seismogram at Prawn 1.

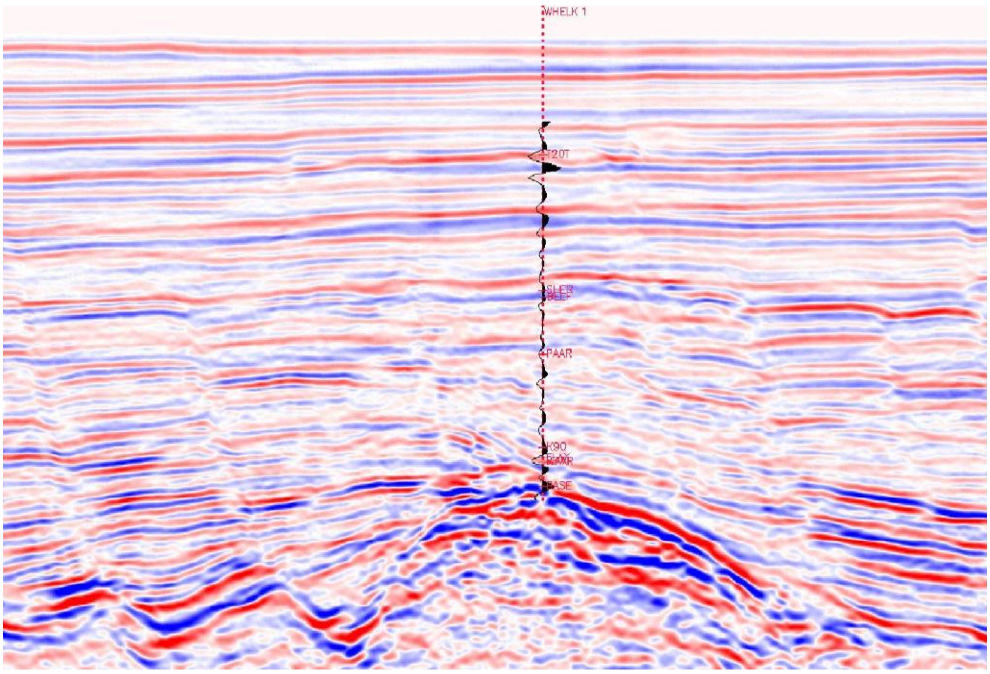

Figure 6. Synthetic seismogram at Whelk 1.

Seismic Data Quality Comparison

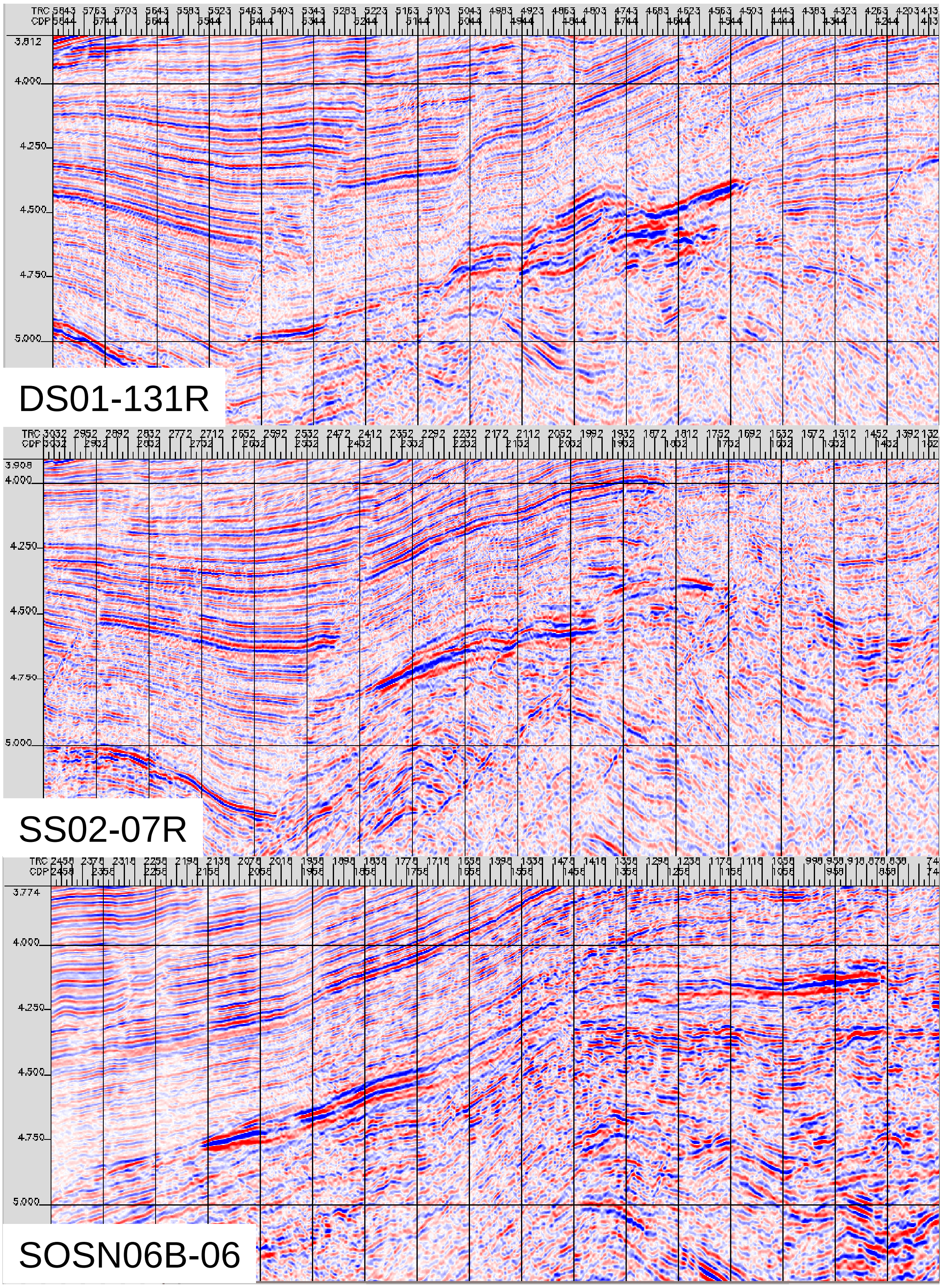

Figure 7. Seismic sections from DS01, SS02 and SOSN06B surveys for comparison of data quality.

Interpreted Seismic Sections

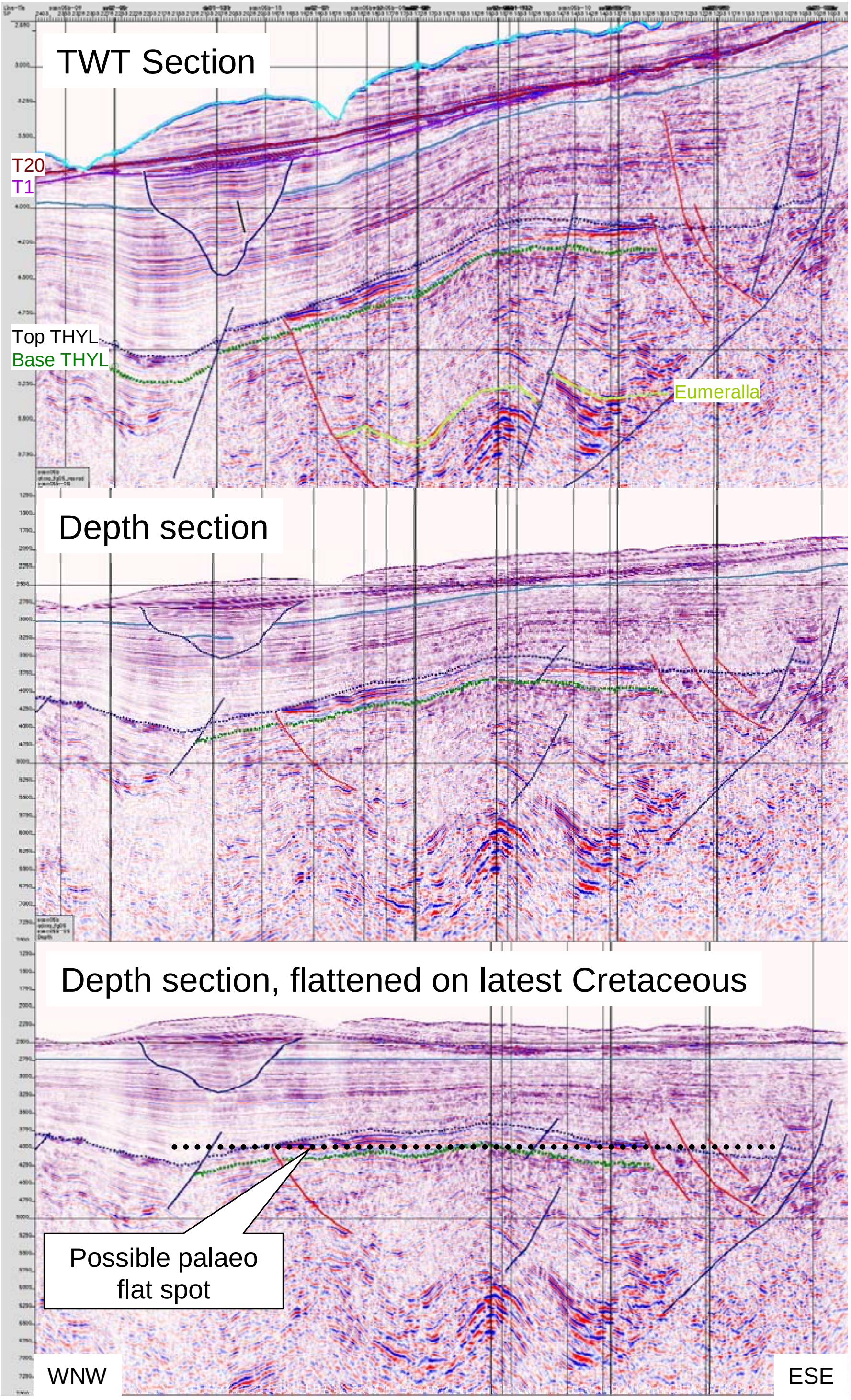

Figure 8. Seismic section (SOSN06B-06) through the Wolseley Prospect. Three versions are shown of the same line – in TWT, Depth and Depth flattened on a conformable event in the latest Cretaceous to show the possible palaeo flat spot.

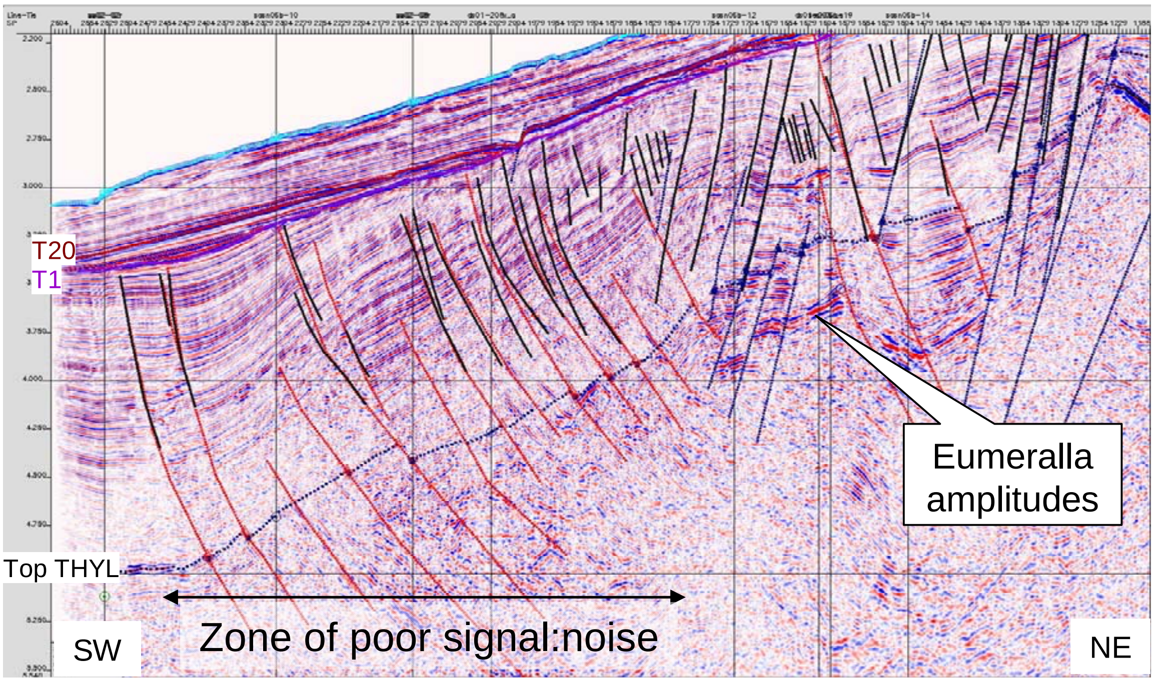

Figure 9. TWT section of seismic line (SOSN06B-05) through the Traegar Lead, showing an area of poor data quality to the SW and high amplitudes at the Eumeralla level.

Enclosures - Maps of Key Horizons

Enclosure 1. Water bottom depth structure map

Enclosure 2. Base Tertiary Carbonates (T20T) depth structure map

Enclosure 3. Top Thylacine depth structure map