Esso Australia Pty Ltd

G03A

3D Seismic Interpretation Submission

GIPPSLAND BASIN

VICTORIA / AUSTRALIA

August 2005

List of Figures and Enclosures

Note: all enclosures are sized to be printed on a 36 inch plotter.

G03A 3D Seismic Interpretation Submission

Seismic Data Quality

The data quality of the G03A Tuskfish 3D seismic survey is significantly better than pre-existing 2D and 3D surveys acquired in this area of the Gippsland Basin. The area covered by the survey is particularly challenging from an acquisition and processing perspective with the rugose seafloor topography and present day shelf edge create significant imaging artefacts. Utilization of a hybrid (single layer) depth migration algorithm during processing has improved data coherence and fault resolution. Despite these improvements, interpretation at depth remains difficult and significant seafloor channel artefacts remain in the data. Data quality in the portion of the survey under the present day shelf is of only poor-moderate quality. Further west, on the present day shelf, and in the east, beyond the present day slope, data quality is fair-good.

Time Structure Mapping

Synthetic seismograms were generated at all wells within the 3D area to allow the transfer of significant geological surfaces to the seismic data. Wells tied include Albacore-1, Angler-1, Athene-1, Ayu-1, Billfish-1, Blackback-1,2,3, Gudgeon-1, Hapuku-1, Helios-1, Hermes-1, Selene-1 and Terakihi-1. Interpreted seismic lines XL3869 and IL1870 have been included with this report (Enclosures 3A and 3B).

The following surfaces have been mapped :

Base High Velocity Channel
Mapped across the full survey extent this surface represents the base of the interval containing Miocene carbonates. This surface represents an important depth conversion constraint.

Lakes Entrance Fm
Mapped across the full survey extent this surface marks the top of the marls and shales of the Lakes Entrance Fm. It is also an important depth conversion constraint.

Top of Latrobe Group
Mapped across the full survey extent this surface represents the ultimate top of porosity for the Latrobe Gp play. A time structure map (Enclosure 1), an average velocity map (Enclosure 4) and a depth structure map (Enclosure 5) have been included with this report.

Smalt Blue SB

The Smalt Blue SB marker has been mapped across the full survey extent and is representative of the intra-Latrobe Gp structural form. The limited biostratigraphic control at this level suggests a lower *L.T.longus* age, close to near top *T.lilliei*, for this marker. A time structure map (Enclosure 2) and a depth structure map (Enclosure 6) have been included with this report.

Depth Conversion

Depth conversion of seismic markers utilised the available well and seismic control. Velocity across the survey area is dependent on the thickness of the water layer as well as the carbonate content of the overburden. Seismic velocities are distorted in many locations by the complex overburden.

Depth conversion was accomplished by applying Dix-corrected seismic velocities to the time maps and carefully editing the anomalous data. Cross-plot relationships between seismic velocity and the structure maps from the shallow horizons were utilised to establish appropriate smoothing functions.

Seismic maps at the Lakes Entrance Fm and Top of Latrobe Gp were edited and then tied to the well control by adjusting to match the well depths.

The depth conversion of the deeper Smalt Blue SB horizon was accomplished by using an isopach method . Interval velocities were constructed using a Vo and gradient method. A smoothed Vo map was constructed relative to a control surface at the Lakes Entrance Fm, which provided a suitable reference surface because of the relative smoothness expected at this stratigraphic level, compared to the highly eroded Top of Latrobe surface.

PILOTFISH-1 ST1

GREAT WHITE-1

MACKEREL-3

MACKEREL-1

SMILER-1

MACKEREL-2

MACKEREL-4

TERAKIHI-1

GUDGEON-1

BLACKBACK-A1ST1

YELLOWTAIL-1

OPAH-1

YELLOWTAIL-2

THREADFIN-1

BLACKBACK-A1A

BLACKBACK-A3

BLACKBACK-A1ST2

HAFUKU-1

BLACKBACK-A2

BLACKBACK-3

ALBACORE-1

KINGFISH-5

INLINE 1870

KINGFISH-6

HERMES-1

ATHENE-1

AYU-1

ASTERIA-1

ANGLER-1

BILLFISH-1

HELIOS-1

CROSSLINE 3869

ANEMONE-1

ARCHER-1

CONTOUR INTERVAL 50 MSEC

1:50000

METERS 0 1000 2000 3000 4000 5000 METERS

KILOMETERS 0 1 2 3 4 5 KILOMETERS

EXXONMOBIL
AUSTRALIA

ENCLOSURE 1
TOP OF LATROBE GP
TIME STRUCTURE

PILOTFISH-1/1A
GREAT WHITE-1
MACKEREL-3
MACKEREL-1
SMILER-1
MACKEREL-2
MACKEREL-4
GUDGEON-1
TERAKIHI-1
BLACKBACK-AIST1
YELLOWTAIL-1
OPAH-1
YELLOWTAIL-2
THREADFIN-1
ALBACORE-1
KINGFISH-5
INLINE 1870
KINGFISH-6
HERMES-1
SELENE-1
ANGLER-1
BILLFISH-1
HELIOS-1
ANEMONE-1
ARCHER-1
CROSSLINE 3869

CONTOUR INTERVAL 50 MSEC

1:50000
METERS 0 1000 2000 3000 4000 5000 METERS
KILOMETERS 0 1 2 3 4 5 KILOMETERS

EXXONMOBIL
AUSTRALIA

ENCLOSURE 2
SMALT BLUE SB
TIME STRUCTURE MAP

Enclosure 3A Tuskfish 3D Crossline 3869

South

2 KM

North

ILN 2388
XLN 3869

2350 2300 2250 2200 2150 2100 2050 2000 1950 1900 1850 1800 1750 1700 1650 1600 1550 1500 1450 1400 1350 1300 1250 1200 1150 1100 1050 993

ILN
XLN 3869

ANGLER 1

0.000 0.250 0.500 0.750 1.000 1.250 1.500 1.750 2.000 2.250 2.500 2.750 3.000 3.250 3.500 3.750 4.000 4.250 4.500 4.750 5.000 5.250 5.500 5.750 5.996

BASE HIGH VELOCITY CHANNEL

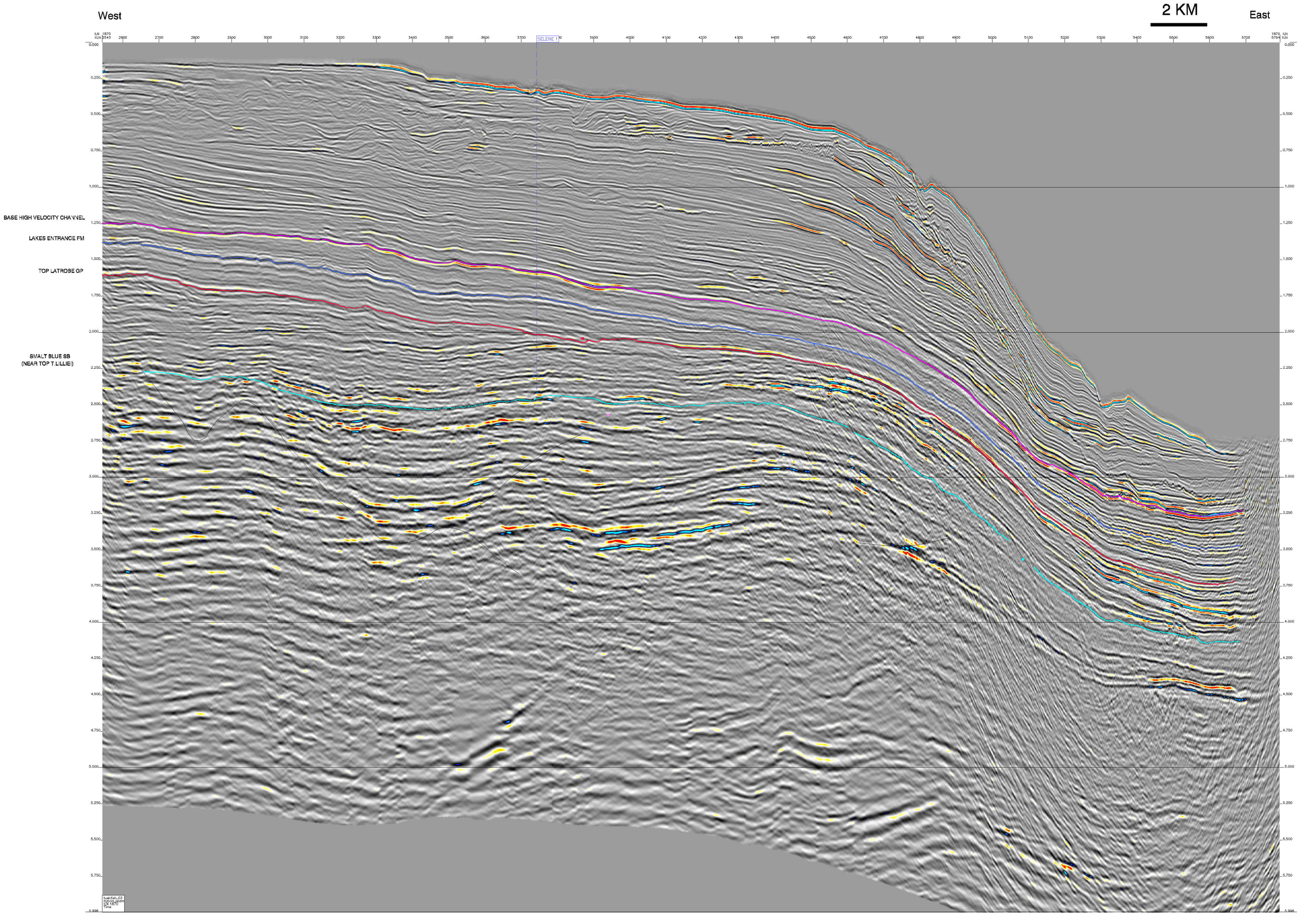
LAKES ENTRANCE FM

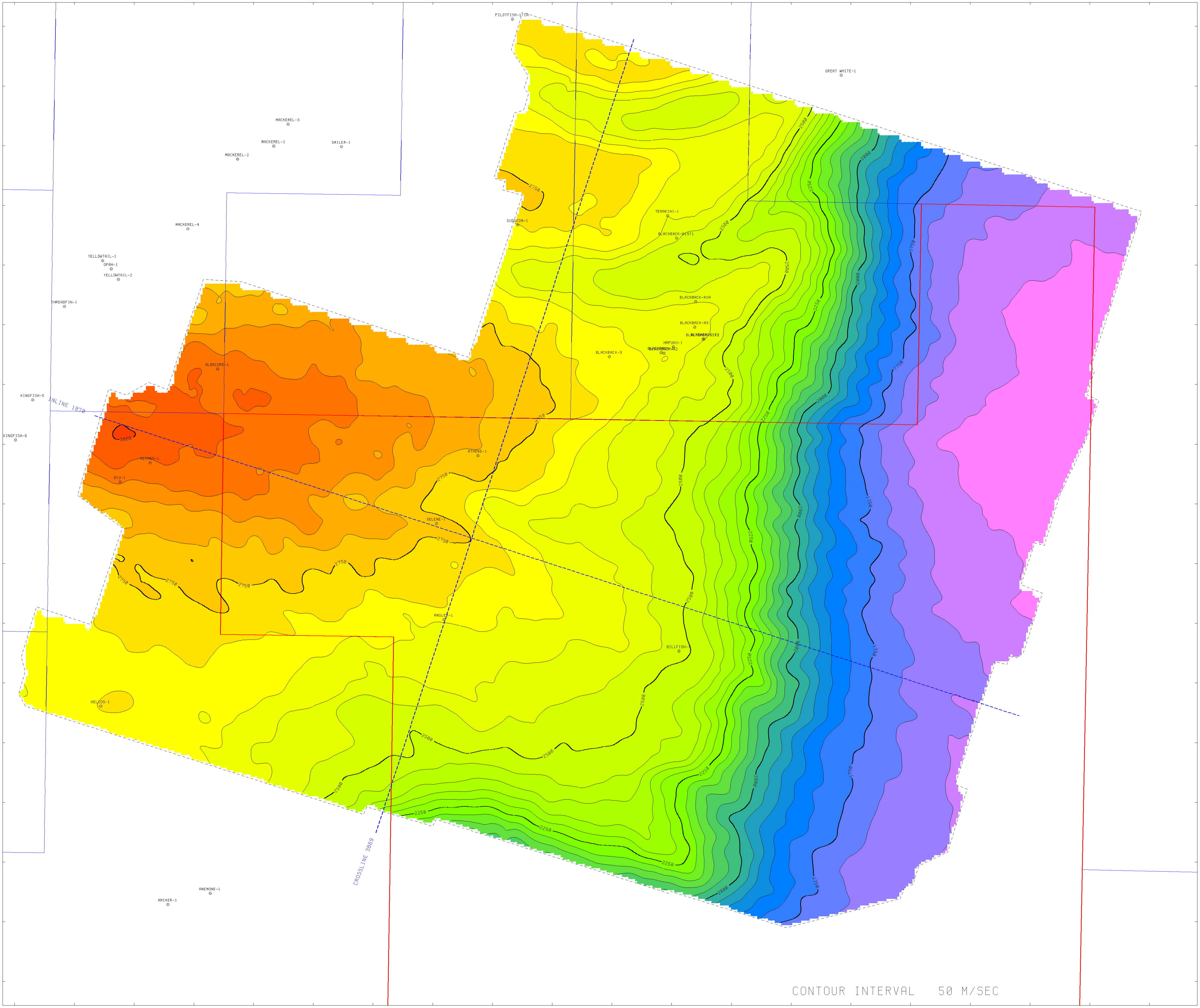
TOP LATROBE GP

SMALT BLUE SB
(NEAR TOP T.LILLIEI)

tuskfish_03
hybrid_pstm
XLN 3869
Time

Enclosure 3B Tuskfish 3D Inline 1870





METERS 0 1000 2000 3000 4000 5000 METERS
1:50000
KILOMETERS 0 1 2 3 4 5 KILOMETERS

EXXONMOBIL
AUSTRALIA
ENCLOSURE 4
TOP OF LATROBE GP
AVERAGE VELOCITY

PILOTFISH-1 (T)

GREAT WHITE-1

MACKEREL-3

MACKEREL-1

SMILER-1

MACKEREL-2

MACKEREL-4

YELLOWTAIL-1

OPAH-1

YELLOWTAIL-2

THREADFIN-1

GUDGEON-1
2831

TERAKIHI-1
2815

BLACKBACK-R1ST1
2827

BLACKBACK-R1A
2814

BLACKBACK-R3
2736

BLACKBACK-R2ST2
2805

HAFUKU-1
2788

BLACKBACK-3
2804

ALBACORE-1
2480

KINGFISH-5

KINGFISH-6

INLINE 1870

HERMES-1
2485

RIU-1
2462

ATHENE-1
2736

SELENE-1
2780

ANGLER-1
2751

BILLFISH-1
2858

HELIOS-1
2570

ARCHER-1

ANEMONE-1

CROSSLINE 3869

CONTOUR INTERVAL 20 METRES

1:50000

METERS 0 1000 2000 3000 4000 5000 METERS

KILOMETERS 0 1 2 3 4 5 KILOMETERS

EXXONMOBIL
AUSTRALIA

ENCLOSURE 5
TOP OF LATROBE GP
DEPTH STRUCTURE

PILOTFISH-1/1A

GREAT WHITE-1

MACKEREL-3

MACKEREL-1

SMILER-1

MACKEREL-2

MACKEREL-4

GUDGEON-1

YELLOWTAIL-1

OPAH-1

YELLOWTAIL-2

THREADFIN-1

ALBACORE-1

KINGFISH-5

KINGFISH-6

INLINE 1870

HERMES-1

3650.0

SELENE-1

ANGLER-1

BILFISH-1

HALIOS-1

ANEMONE-1

ARCHER-1

CROSSLINE 3669

CONTOUR INTERVAL 20 METRES

1:50000

METERS 0 1000 2000 3000 4000 5000 METERS

KILOMETERS 0 1 2 3 4 5 KILOMETERS

EXXONMOBIL
AUSTRALIA

ENCLOSURE 6
SMALT BLUE SB
DEPTH STRUCTURE