WCR (VOL. 2)
YELLOWTAIL - 2
(W779)

ESSO EXPLORATION AND PRODUCTION
AUSTRALIA INC.

WELL COMPLETION REPORT
YELLOWTAIL - 2
VOLUME 2

GIPPSLAND BASIN
VICTORIA

ESSO AUSTRALIA LIMITED

Compiled by: P. Glenton **Date: February, 1983**

YELLOWTAIL-2

WELL COMPLETION REPORT

VOLUME 2
(Interpretative Data)

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YELLOWTAIL-2

GEOLOGICAL AND GEOPHYSICAL ANALYSIS

		Depth (m)			
		PREDICTED	ACTUAL		
AGE		KB	KB	SUBSEA	THICKNESS(m)
Pleistocene/Miocene	Gippsland Limestone	101	99	-78	1560
Miocene/Oligocene	Lakes Entrance Formation	1657	1659	-1638	755
Eocene	LATROBE GROUP : Gurnard Formation	2395	2414	-2393	10
Paleocene	: "coarse clastics"		2424	-2403	142+
	TOTAL DEPTH	2541	2566	-2545	

INTRODUCTION

Yellowtail is a low relief topographic high southwest of Mackerel oilfield. Yellowtail-2 was drilled to assess the reservoir quality and hydrocarbon potential of the Latrobe Group in the southeastern culmination of the feature. Oil indications were encountered in the non-net Gurnard Formation and a transition zone of low oil saturation was present in a 5.5 metre interval at the top of the Latrobe Group "coarse clastics".

PREVIOUS DRILLING HISTORY

Two wells have previously been drilled on what is now referred to as the Yellowtail feature.

Opah-1, drilled in 1977, is located 550m northwest of Yellowtail-2. It encountered fluorescence and cut in sidewall cores and cuttings in non-net Latrobe Group sediments to a depth of 2394 m(ss). No shows were recorded in the underlying Latrobe Group "coarse clastics".

Yellowtail-1, drilled in 1981, is located 1040m northwest of Yellowtail-2. It encountered a 10.5m oil column at the top of the "coarse clastics". A further 5m of low oil saturation transition zone was present to a depth of 2410.5m (ss).

GEOLOGICAL ANALYSIS

Post-drill mapping of the Yellowtail area is consistent with the pre-drill interpretation that the feature is an eroded low-relief topographic high at the top of the Latrobe Group (Enclosure 1). The feature is separated into two culminations by a northeast trending channel incised into the top of Latrobe Group surface. Yellowtail-2 was drilled on the crest of the more easterly of these culminations.

Stratigraphy

Yellowtail-2 encountered the limestones and calcareous sediments of the Gippsland Limestone and Lakes Entrance Formation as predicted. A major unconformity representing most of the Oligocene occurs at the base of the Lakes Entrance Formation (Appendices 1 and 2).

A non-net interval 10 metres thick is present at the top of the Latrobe Group. This unit is referred to here as the "Gurnard Formation" although it is not clear whether it was deposited by the same processes as was the "Gurnard Formation" elsewhere in the basin. At Yellowtail-2, the basal part of this unit is a sandstone rich in glauconite and pyrite. This passes up into a brown, oxidised, iron-rich sandstone. A middle N. asperus age has been determined for the unit.

An unconformity representing at least 13 million years separates the "Gurnard Formation" from the Latrobe Group "coarse clastics". The "coarse clastics" at Yellowtail-2 are of upper and lower L. balmei age and are interpreted to have been deposited in a nearshore marine environment.

The distribution of Latrobe Group lithologies at Yellowtail is represented in Enclosure 2. The "coarse clastics" sequence is believed to consist of stacked sedimentary wedges which were deposited in a linear clastic shoreline environment prograding to the southeast.

The "Gurnard Formation" is believed to form a blanket of fairly uniform thickness over the Yellowtail feature, and to have developed largely as a result of biological reworking on the erosional surface of the Latrobe Group. The non-net sediment at the top of the Latrobe Group at Opah-1 is believed to have been deposited in a channel, after the development of the "Gurnard Formation" over the rest of the feature. The P. asperopolus unit at the base of the "Opah channel" may represent either the remains of an earlier episode of reworking on the top of Latrobe Group, or the basal part of a unit deposited in an earlier channel along the same erosional scour.

HYDROCARBONS

Yellowtail-2 encountered oil indications in the "Gurnard Formation" and in the uppermost part of the "coarse clastics". Although the "Gurnard Formation" is interpreted from log analysis, core data and RFT testing to be tight, it is possible that a 2 metre interval from 2398m (ss) to 2400m (ss) may have minor oil productivity. A small amount of oil was recovered in an RFT at 2398m(ss).

Reservoir quality sandstones were intersected at the top of the "coarse clastics", with oil indications between 2403m and 2408.5m (ss). Average porosity here is 19%. Log analysis and RFT results suggest that this interval contains only residual oil. It is interpreted that the interval would produce water.

The base of the transition zone in Yellowtail-2 at 2408.5m (ss) is comparable with the base of the transition zone in Yellowtail-1 at 2410.5m (ss). The 2m difference is within the limits of measurement error from drilling and logging. No oil/water contact can be confidently interpreted in Opah-1. Oil indications were encountered in Opah-1 in non-net Latrobe Group sediments between 2382m and 2394m (ss). A shaly sandstone unit between 2395m and 2396m (ss) was previously interpreted to be water wet, but in view of the observed oil/water contact in Yellowtail-1 and Yellowtail-2 it seems more likely that the unit contains oil at a low saturation. Log responses are believed to have been inhibited by shaliness and adjacent bed effects. The impermeable siltstone recovered from a sidewall core shot in the interval did not provide any data from which the nature of the formation fluid could be determined. Beneath this shaly sandstone is a thick silty shale. Opah-1 did not intersect any reservoir quality sandstone above the field oil/water contact.

GEOPHYSICAL ANALYSIS

At the well location the top of Latrobe Group came in 19m low to prediction, an error of 0.8%.

Half of this error is due to incorrect velocity estimation with the other half due to difficulties in relating the 'top of Latrobe' seismic marker to the lithology.

Remapping of the field using Yellowtail-2 results gives a reduction in the pre-drill volume of the eastern culmination of the closure. The presence of non-net material in all wells drilled into the feature has resulted in this material being interpreted to blanket the field. This new interpretation results in marked reduction in reservoir volume.

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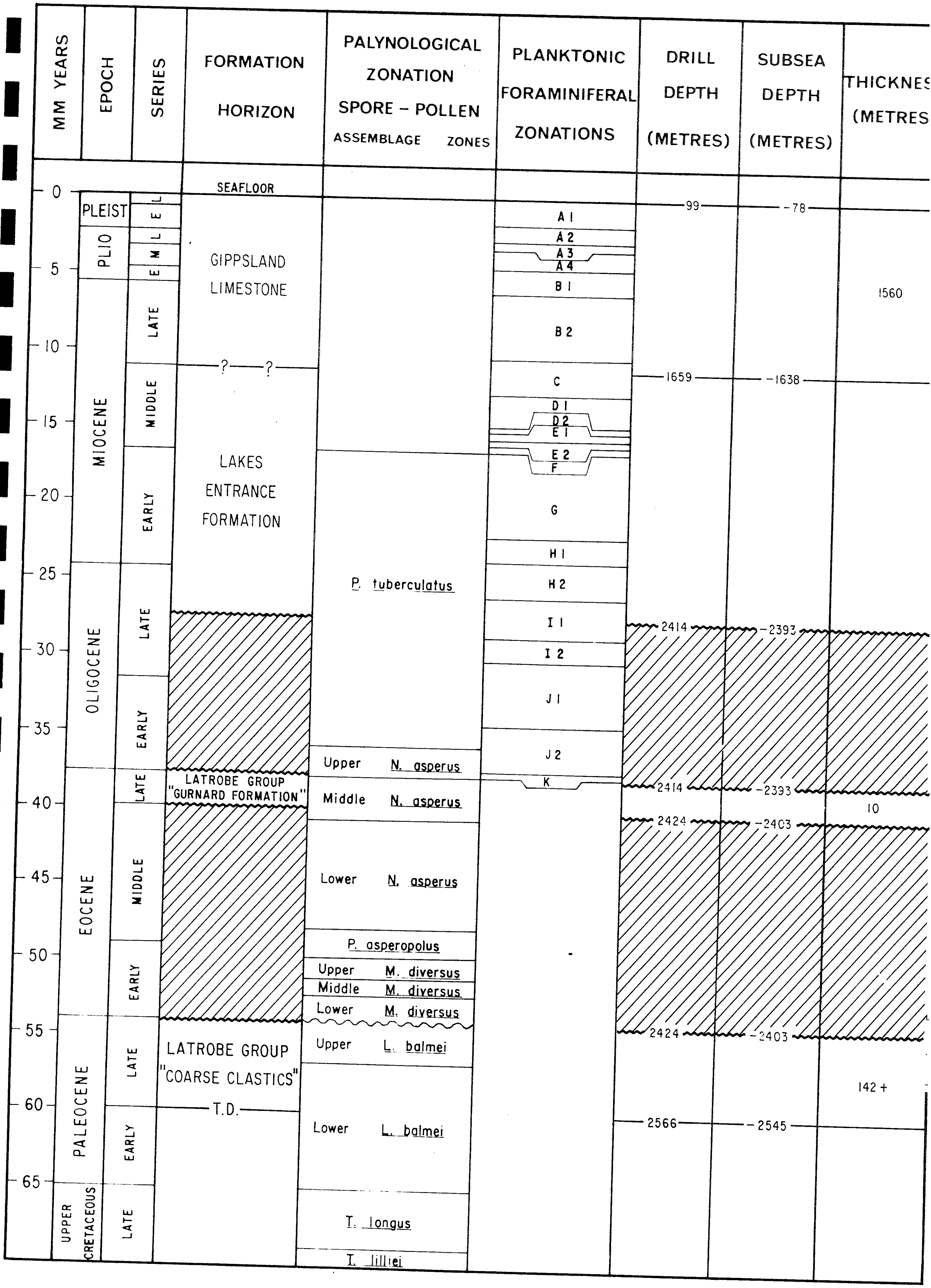
YELLOWTAIL-2
STRATIGRAPHIC TABLE



Dwg. 2095/OP/9

FIGURE 1

APPENDIX 1

APPENDIX 1

MICROPALAEONTOLOGICAL ANALYSIS

APPENDIX 1

FORAMINIFERAL ANALYSIS, YELLOWTAIL-2

GIPPSLAND BASIN

by
J.P. Rexilius

Esso Australia Ltd.,
Palaeontology Report 1982/45

November 25, 1982

INTERPRETATIVE DATA

INTRODUCTION

Fifty six (56) sidewall core samples were processed for foraminiferal analysis in Yellowtail-2 from 845 to 2423 metres. Only the planktonic foraminifera have been scrutinized in detail. An agglutinated benthonic foraminiferal fauna has been noted at the base of the Lakes Entrance Formation and its palaeoenvironmental implications are discussed in the section dealing with geological comments. Adequate planktonic foraminiferal faunas occur in most samples with the exception of the Gippsland Limestone (in samples between 920 and 1560m), the lower most sample of the Lakes Entrance Formation (at 2413m) and the Gurnard Formation (between 2413.9 and 2423m). Preservation of planktonic foraminifera (if present) within these intervals is generally very poor owing to recrystallization.

Tables 1 and 2, provide a summary (Basic and Interpretive) of the palaeontological analysis in Yellowtail-2. A summary of the biostratigraphic breakdown of the stratigraphic units in Yellowtail-2 is given below.

SUMMARY

DEPTH(m)	ZONE	AGE	UNIT
845	A-4 to B-2	Mid Pliocene - Late Miocene	Gippsland Limestone
920-1635	Indeterminate	-	
1710 - 1790	C	Mid Miocene	Lakes Entrance Formation
1865 - 2090	D-1 to D-2	Mid Miocene	
2169 - 2258	F	Early Miocene	
2271 - 2355	G	Early Miocene	
2365 - 2409	H-1	Early Miocene	
2410 - 2411	H-1 to I-1	Late Oligocene/ Early Miocene	
2412 - 2413	Indeterminate	-	
2413.9- 2423	Indeterminate	-	Gurnard Formation

GEOLOGICAL COMMENTS

1) The Gurnard Formation in Yellowtail-2 has been strongly limonitized and is barren of foraminifera.

2) Two units are recognized within the base of the Lakes Entrance Formation in Yellowtail-2: a thin lower unit of calcareous siltstone (approximately 2m thick : 2412 to 2413m) and an upper foraminiferal biomicrite or planktonic foraminiferal ooze. The basal calcareous siltstone contains a foraminiferal fauna dominated by deep water, fine grained agglutinated benthonics including opaline Ammodiscus. There is a low yield of very poorly preserved planktonic foraminifera in the unit. The fauna is not age diagnostic. This calcareous siltstone has also been recognized in Yellowtail-1 where it is thicker (approximately 9 metres thick). This lithology is not represented on the erosional high intersected in Opah-1. The facies is tentatively interpreted as being a deep water turbidite which has been sourced from a north-northwest direction (Rexilius, in prep.).

3) The planktonic foraminiferal ooze which overlies the calcareous siltstone was also deposited in deep water (planktonic foraminiferal percentage 95-98 percent). The presence of pelletal glauconite (constituting about 10 percent of the unit) at the base of the unit indicates slow depositional rates. The glauconite content decreases upsection. The age of the base of the ooze in Yellowtail-2 (SWC 36 - 2410m) can be no older than Zone I-1 and from 2409 to 2365m is assignable to Zone H-1. The planktonic foraminiferal ooze has also been recognized in Yellowtail-1 (Taylor, 1982) where it overlies the calcareous siltstone facies and in Opah-1 where it overlies a sand.

4) There is evidence of reworking at the base of the Lakes Entrance Formation in Yellowtail-2. Foraminiferal faunas of Zone I-1 age and possibly Zone H-2 age have been reworked during Zone H-1 time as high as 2395m. Reworking of Early and Late Oligocene planktonic foraminiferal assemblages during the Early Miocene (Zone H-1 time) has also been recorded in Yellowtail-1 and Opah-1 (Rexilius, in prep.).

DISCUSSION OF ZONES

The Tertiary biostratigraphy in Yellowtail-2 is based on the Gippsland Basin planktonic foraminiferal zonal scheme of Taylor (in prep.). Studies by Jenkins (1960, 1971), Blow (1969, 1970), Postuma (1971), Stainforth et al (1975) and Hornibrook (1982) have also been consulted.

ZONES A-4 to B-2: 845m

The association of Globorotalia acostaensis with G. miozea conoidea and G. scitula indicates that SWC 153 at 845m can be assigned to zones A-4, B-1 or B-2.

INDETERMINATE INTERVAL : 920 - 1635m

The poor preservation and low to moderate yield of planktonic foraminifera in the Gippsland Limestone between 920 and 1560m hampers biostratigraphic determinations. Although the lowermost sample of Gippsland Limestone in Yellowtail-2 (SWC 140-1635m) contains a well preserved planktonic foraminiferal assemblage, there are no biostratigraphically useful species present. The sporadic occurrence of Globorotalia conomiozea within the interval 920 - 1635m would normally indicate assignment to Zone B-1 or younger using the planktonic foraminiferal zonal scheme of Taylor (in prep.). Taylor's zonal scheme defines the base of Zone B-1 (6MA - latest Late Miocene) by the first uphole appearance of Globorotalia conomiozea. However in Yellowtail-2, Globorotalia conomiozea is associated with Globorotalia mayeri, a species whose extinction defines the top of Zone C. Recent work by Hornibrook (1982) on faunas from DSDP site 258 off the western coast of New Zealand, indicates that conical forms of Globorotalia miozea conoidea, which are indistinguishable from Globorotalia conomiozea, are common in the Tongaporutuan New Zealand stage (6 - 12MA). The use of Globorotalia conomiozea as a defining event for the base of Zone B-1 at 6MA is now considered invalid. In Yellowtail-2 there is good evidence that the species makes its first appearance earlier within Zone C.

ZONE C : 1710 - 1790m

The base of Zone C is defined by the extinction of Globorotalia miozea miozea which abruptly vanishes uphole at 1865m. The top of the zone in Yellowtail-2 is defined by the extinction of Globorotalia mayeri at 1710m.

ZONES D-1 to D-2 : 1865 - 2090m

The appearance of Orbulina universa uphole at 2090m and the extinction uphole of Globorotalia miozea miozea at 1865m defines the interval as Zone D-1 to D-2 in age.

ZONE F : 2169 - 2258m

The interval is assigned to Zone F on the basis of the presence of Globigerinoides bisphericus and the absence of the Praeorbulina - Orbulina plexus.

ZONE G : 2271 - 2355m

The appearance uphole of Globigerinoides trilobus at 2355m defines the base of Zone G in Yellowtail-2. The top of the zone is defined by the evolutionary appearance uphole of Globigerinoides bisphericus from G. trilobus at 2258m. Zone G planktonic foraminiferal faunas in Yellowtail-2 are diverse and very well preserved.

ZONE H-1 : 2365 - 2409m

The appearance uphole of Globigerina woodi connecta at 2409m defines the base of Zone H-1 in Yellowtail-2. The top of Zone H-1 in Yellowtail-2 is defined by the uphole first appearance of Globigerinoides trilobus at 2355m. There is evidence of reworking of Zone I-1 and possibly Zone H-2 faunas during Zone H-1 time. This is confirmed by the common occurrence of Globigerina euapertura in SWC 40 at 2406m and sporadic occurrences of Globorotalia opima and Globigerina tripartita between 2395 and 2409m.

ZONES H-1 to I-1 : 2410 - 2411m

The interval contains very poorly preserved (recrystallized) planktonic foraminifera. The presence of Globoquadrina dehiscens sl. indicates an age no older than Zone I-1.

INDETERMINATE INTERVAL : 2412 - 2423m

The lowermost record of planktonic foraminifera in Yellowtail-2 is at 2412m where only rare indeterminate globigerinids were recovered. The lowermost sample of Lakes Entrance Formation (2413m) contains only agglutinated foraminifera. No foraminifera were found in the Gurnard Formation between 2413.9 and 2423m.

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MICROPALEONTOLOGICAL DATA SHEET

BASIN: GIPPSLAND ELEVATION: KB: 21M GL: 78M

WELL NAME: Yellowtail - 2 TOTAL DEPTH: 2566

AGE		FORAM. ZONULES	HIGHEST DATA Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	LOWEST DATA Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
PLEISTOCENE		A_1										
PLEISTOCENE		A_2										
PLIOCENE		A_3										
PLIOCENE		A_4	845	2								
PLIOCENE		B_1										
MIOCENE	LATE	B_2								845	2	
MIOCENE	LATE	C	1710	1						1790	1	
MIOCENE	MIDDLE	D_1	1865	1								
MIOCENE	MIDDLE	D_2								2090	0	
MIOCENE	MIDDLE	E_1										
MIOCENE	MIDDLE	E_2										
MIOCENE	EARLY	F	2169	0						2258	0	
MIOCENE	EARLY	G	2271	0						2355	0	
MIOCENE	EARLY	H_1	2365	1						2409	1	
OLIGOCENE	LATE	H_2										
OLIGOCENE	LATE	I_1										
OLIGOCENE	LATE	I_2										
OLIGOCENE	EARLY	J_1										
OLIGOCENE	EARLY	J_2										
EOCENE		K										
EOCENE		Pre-K										

COMMENTS: There is evidence of reworking of I-1 and ?H-2 planktonic foraminiferal faunas in Zone H-1 up to 2395 metres. Preservation of faunas in the interval 2410 to 2411 m. is very poor, however, the presence of Globoquadrina dehiscens s.1 indicates an age no older than Zone I-1. The lower most samples of Lakes Entrance Formation (2412-2413m) contain foraminiferal faunas dominated by agglutinated benthonics. Very rare and very poorly preserved planktonics are restricted to 2412 m. and no age assignment is possible. The Gurnard Formation between 2413.9 and 2423 m. is barren of foraminifera.

CONFIDENCE RATING:

- O: SWC or Core - Complete assemblage (very high confidence).
- 1: SWC or Core - Almost complete assemblage (high confidence).
- 2: SWC or Core - Close to zonule change but able to interpret (low confidence).
- 3: Cuttings - Complete assemblage (low confidence).
- 4: Cuttings - Incomplete assemblage, next to uninterpretable or SWC with depth suspicion (very low confidence).

NOTE: If an entry is given a 3 or 4 confidence rating, an alternative depth with a better confidence rating should be entered, if possible. If a sample cannot be assigned to one particular zone, then no entry should be made, unless a range of zones is given where the highest possible limit will appear in one zone and the lowest possible limit in another.

DATA RECORDED BY: J.P. Rexilius DATE: 27th July 1982.

DATA REVISED BY: J.P. Rexilius DATE: 9th September, 1982.

TABLE - 1

SUMMARY OF PALAEONTOLOGICAL ANALYSIS

YELLOWTAIL-2, GIPPSLAND BASIN

INTERPRETATIVE DATA

NATURE OF SAMPLE	DEPTH (METRES)	MICRO-FOSSIL YIELD	PRESERVATION	DIVERSITY	ZONE	RATING	AGE
SWC 153	845	High	Good	Moderate	A-4 to B-1	2	Mid Pliocene - Late Miocene
SWC 152	920	Moderate	Poor	Low	Indeterminate	-	-
SWC 151	995.1	Moderate	Moderate	Low	Indeterminate	-	-
SWC 150	1070	Low	Poor	Very Low	Indeterminate	-	-
SWC 149	1145	Low	Poor	Very Low	Indeterminate	-	-
SWC 148	1219.9	Low	Poor	Very Low	Inderterminate	-	-
SWC 147	1295	Moderately Low	Poor	Low	Indeterminate		-
SWC 146	1367.9	Low	Poor	Very Low	Indeterminate	-	-
SWC 145	1376	Moderately Low	Poor	Very Low	Indeterminate	-	-
SWC 144	1381	Low	Poor	Low	Indeterminate	-	-
SWC 143	1409.9	Low	Poor	Low	Indeterminate	-	-
SWC 142	1485	Moderate	Poor	Low	Indeterminate	-	-
SWC 141	1560	Moderate	Moderately Poor	Moderate	Indeterminate	-	-
SWC 140	1635	High	Good	Moderate	Indeterminate	-	-
SWC 139	1710	High	Good	Moderate	C	1	Mid Miocene

TABLE - 1 (2)

SUMMARY OF PALAEONTOLOGICAL ANALYSIS

YELLOWTAIL-2, GIPPSLAND BASIN

INTERPRETATIVE DATA

NATURE OF SAMPLE	DEPTH (METRES)	MICRO-FOSSIL YIELD	PRESERVATION	DIVERSITY	ZONE	RATING	AGE
SWC 138	1790	High	Good	High	C	1	Mid Miocene
SWC 137	1865	High	Moderately Good	Moderate	D-1/D-2	1	Mid Miocene
SWC 136	1940	High	Moderately Good	High	D-1/D-2	1	Mid Miocene
SWC 84	2014.9	Moderately High	Moderate	Low	D-1/D-2	0	Mid Miocene
SWC 135	2090	Low	Moderate-Poor	Low	D-1/D-2	0	Mid Miocene
SWC 134	2169	Moderately High	Moderate	Moderate	F	0	Early Miocene
SWC 133	2258	High	Good	Moderate	F	0	Early Miocene
SWC 132	2271	Moderate	Moderate-Poor	Moderate	G	0	Early Miocene
SWC 131	2283	High	Good	High	G	0	Early Miocene
SWC 129	2305	High	Good	High	G	0	Early Miocene
SWC 128	2315	High	Moderate	Moderate	G	0	Early Miocene
SWC 127	2324.9	Moderate	Moderate-Poor	Moderate	G	0	Early Miocene
SWC 126	2335	High	Moderate	Moderate	G	0	Early Miocene
SWC 125	2345	High	Moderate	Moderate	G	0	Early Miocene
SWC 47	2355	High	Good	High	G	0	Early Miocene

TABLE - 1 (3)

SUMMARY OF PALAEONTOLOGICAL ANALYSIS

YELLOWTAIL-2, GIPPSLAND BASIN

INTERPRETATIVE DATA

NATURE OF SAMPLE	DEPTH (METRES)	MICRO-FOSSIL YIELD	PRESERVATION	DIVERSITY	ZONE	RATING	AGE
SWC 46	2365	Low	Poor	Low	H-1	1	Early Miocene
SWC 124	2370	High	Good	High	H-1	1	Early Miocene
SWC 45	2375	High	Good	High	H-1	1	Early Miocene
SWC 123	2380	High	Moderate	Moderate	H-1	1	Early Miocene
SWC 44	2385	High	Moderate	Moderate	H-1	1	Early Miocene
SWC 122	2390	Moderate	Moderate	Moderate	H-1	1	Early Miocene
SWC 43	2395	Moderate	Moderate	Low	H-1	1	Early Miocene *
SWC 121	2400	High	Moderate-Poor	Moderate	H-1	1	Early Miocene *
SWC 41	2405	Moderate	Poor	Low	H-1	1	Early Miocene *
SWC 40	2406	High	Moderate	Moderate	H-1	1	Early Miocene *
SWC 39	2407	High	Moderate	Moderate	H-1	1	Early Miocene *
SWC 38	2408	High	Poor	Low	H-1	1	Early Miocene *
SWC 37	2409	High	Moderate-Poor	Moderate	H-1	1	Early Miocene *

* = Reworking of Late Oligocene (Zone I-1) and ?Early Miocene (Zone H-2) planktonic foraminifera.

TABLE - 1 (4)
SUMMARY OF PALAEONTOLOGICAL ANALYSIS
YELLOWTAIL-2, GIPPSLAND BASIN
INTERPRETATIVE DATA

NATURE OF SAMPLE	DEPTH (METRES)	MICRO-FOSSIL YIELD	PRESERVATION	DIVERSITY	ZONE	RATING	AGE
SWC 36	2410	High	Poor	Low	I-1 or younger	2	Early Miocene/ Late Oligocene
SWC 35	2411	Low	Very Poor	Very Low	I-1 or younger	2	Early Miocene/ Late Oligocene
SWC 34	2412	Low	Very Poor	Very Low	Indeterminate	-	-
SWC 33	2413	N.F.F.	-	-	-	-	-
SWC 32	2413.9	N.F.F.	-	-	-	-	-
SWC 120	2415.9	N.F.F.	-	-	-	-	-
SWC 119	2417	N.F.F.	-	-	-	-	-
SWC 118	2418	N.F.F.	-	-	-	-	-
SWC 117	2419	N.F.F.	-	-	-	-	-
SWC 116	2419.9	N.F.F.	-	-	-	-	-
SWC 115	2421	N.F.F.	-	-	-	-	-
SWC 114	2421.9	N.F.F.	-	-	-	-	-
SWC 113	2423	N.F.F.	-	-	-	-	-

N.F.F. = No foraminifera found (planktonics).

BASIC DATA

TABLE - 2 : FORAMINIFERAL DATA - YELLOWTAIL - 2.

RANGE CHART : TERTIARY PLANKTONIC FORAMINIFERA.

TABLE - 2

FORAMINIFERAL DATA

YELLOWTAIL - 2, GIPPSLAND BASIN

BASIC DATA

SAMPLE No.	DEPTH (Metres)	MICRO FOSSIL YIELD	PRESERVATION	DIVERSITY
SWC 153	845	High	Good	Moderate
SWC 152	920	Moderate	Poor	Low
SWC 151	995.1	Moderate	Moderate	Low
SWC 150	1070	Low	Poor	Very Low
SWC 149	1145	Low	Poor	Very Low
SWC 148	1219.9	Low	Poor	Very Low
SWC 147	1295	Moderately Low	Poor	Low
SWC 146	1367.9	Low	Poor	Very Low
SWC 145	1376	Moderately Low	Poor	Very Low
SWC 144	1381	Low	Poor	Low
SWC 143	1409.9	Low	Poor	Low
SWC 142	1485	Moderate	Poor	Low
SWC 141	1560	Moderate	Moderately Poor	Moderate
SWC 140	1635	High	Good	Moderate
SWC 139	1710	High	Good	Moderate
SWC 138	1790	High	Good	High
SWC 137	1865	High	Moderately Good	Moderate
SWC 136	1940	High	Moderately Good	High
SWC 84	2014.9	Moderately High	Moderate	Low
SWC 135	2090	Low	Moderate-Poor	Low
SWC 134	2169	Moderately High	Moderate	Moderate
SWC 133	2258	High	Good	Moderate
SWC 132	2271	Moderate	Moderate-Poor	Moderate
SWC 131	2283	High	Good	High
SWC 129	2305	High	Good	High
SWC 128	2315	High	Moderate	Moderate
SWC 127	2324.9	Moderate	Moderate-Poor	Moderate
SWC 126	2335	High	Moderate	Moderate
SWC 125	2345	High	Moderate	Moderate
SWC 47	2355	High	Good	High
SWC 46	2365	Low	Poor	Low
SWC 124	2370	High	Good	High

TABLE - 2 (2)

FORAMINIFERAL DATA

YELLOWTAIL - 2, GIPPSLAND BASIN

BASIC DATA

SAMPLE No.	DEPTH (Metres)	MICRO FOSSIL YIELD	PRESERVATION	DIVERSITY
SWC 45	2375	High	Good	High
SWC 123	2380	High	Moderate	Moderate
SWC 44	2385	High	Moderate	Moderate
SWC 122	2390	Moderate	Moderate	Moderate
SWC 43	2395	Moderate	Moderate	Low
SWC 121	2400	High	Moderate-Poor	Moderate
SWC 41	2405	Moderate	Poor	Low
SWC 40	2406	High	Moderate	Moderate
SWC 39	2407	High	Moderate	Moderate
SWC 38	2408	High	Poor	Low
SWC 37	2409	High	Moderate-Poor	Moderate
SWC 36	2410	High	Poor	Low
SWC 35	2411	Low	Very Poor	Very Low
SWC 34	2412	Low	Very Poor	Very Low
SWC 33	2413	N.F.F.	-	-
SWC 32	2413.9	N.F.F.	-	-
SWC 120	2415.9	N.F.F.	-	-
SWC 119	2417	N.F.F.	-	-
SWC 118	2418	N.F.F.	-	-
SWC 117	2419	N.F.F.	-	-
SWC 116	2419.9	N.F.F.	-	-
SWC 115	2421	N.F.F.	-	-
SWC 114	2421.9	N.F.F.	-	-
SWC 113	2423	N.F.F.	-	-

N.F.F. = No foraminifera found (planktonics)

APPENDIX 2

APPENDIX 2

PALYNOLOGICAL ANALYSIS

APPENDIX-

PALYNOLOGICAL ANALYSIS OF YELLOWTAIL-2
GIPPSLAND BASIN

by

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PART I

INTERPRETATIVE DATA

INTRODUCTION

GEOLOGICAL COMMENTS

COMMENTS ON AGE ZONES

TABLE 1: INTERPRETATIVE DATA

PALYNOLOGY DATA SHEET

INTRODUCTION:

Twenty-three (23) sidewall cores from Yellowtail-2 were processed and examined for palynomorphs. Yield from most samples was fair to poor, but in most cases, the assemblages could be assigned to a stratigraphic zone.

Palynological zones and lithological facies subdivisions from the base of the Lakes Entrance Formation to the total depth are summarized below. The results of analysis for each sample are given in Table 1 and the occurrence of individual species is tabulated in the accompanying distribution charts.

SUMMARY

AGE/FACIES	ZONE	DEPTH (metres)
LAKES ENTRANCE FORMATION	P. tuberculatus	2411.0-2413.0
UNCONFORMITY		
GURNARD FORMATION	Middle N. asperus	2414.9-2421.0
UNCONFORMITY		
LATROBE GROUP	Upper L. balmei	2423.9-2526.0
(COARSE CLASTICS)	Lower L. balmei	2528.9-2537.1
		T.D. 2558

GEOLOGICAL COMMENTS;

This well is very similar, stratigraphically, to Yellowtail-1. In both cases, the base of the Lakes Entrance Formation (P. tuberculatus Zone) is separated from the top of the Latrobe Group coarse clastics (Upper L. balmei Zone) by a thin, approximately 10 metres, glauconitic sandstone, referred to the Gurnard Formation, that appears to be entirely Middle N. asperus Zone in age.

As in Opah-1 the Gurnard Formation section was partially oxidised, however in this well it was possible to extract some palynomorphs and obtain a Middle N. asperus Zone age. It is likely that the barren interval in Opah-1 between 2406 to 2417 metres is also Middle N. asperus Zone age.

No P. asperopolus Zone section was recovered from Yellowtail-2 as found in Opah-1 in samples at 2417 metres and 2418.6 metres. Although the sampling gap of 2.9 metres between the Middle N. asperus Zone and Upper L. balmei Zone in Yellowtail-2 is the same order of magnitude the log character is quite distinct suggesting that the P. asperopolus Zone is absent in Yellowtail-2.

The marine influence noticed in the Paleocene section of Yellowtail-1 appears to be even stronger in Yellowtail-2. Almost all of the Paleocene samples in Yellowtail-2 contained a well developed, fairly diverse dinoflagellate flora.

DISCUSSION OF ZONES

Lower Lygistepollenites balmei Zone: 2528.9 to 2537.1 metres.

The three samples assigned to this zone contain good L. balmei Zone assemblages, but can only be assigned to the Lower subdivision on the basis of the negative evidence of the absence of spore-pollen and dinoflagellate species diagnostic of the Upper subdivision of the L. balmei Zone. As the lowest sample at 2537.1 metres contains a fair yield of a moderately diverse assemblage the confidence for the age dating for this sample is considered good.

Upper Lygistepollenites balmei Zone; and -
Apectodinium homomorpha Dinoflagellate Zone: 2423.9 to 2526 metres

In addition to the zone name species Lygistepollenites balmei the samples contain the following zone and Paleocene marker species: Australopollis obscurus, Gambierina edwardsii, G. rudata and Polycolpites langstonii. Diagnostic of the Upper subdivision of the L.balmei Zone are the species Banksieaeidites elongatus and Cyathidites gigantis. The age based on the spore-pollen is independently confirmed by the dinoflagellates with occurrence of the zone species Apetodinium homomorpha in the sample at 2526 metres being the basis for choosing the base of the zone at this level.

Middle Nothofagidites asperus Zone; and -
Corrudinium incompositum Dinoflagellate Zone: 2414.9 to 2421 metres

The dinoflagellate assemblage from this section which includes Baltisphaeridium nanum, Hystiocysta variata, Deflandrea phosphoritica, Aceosphaeridium arcuatum, Corrudinium corrugatum and C. incompositum, clearly demonstrate that these sediments are from the Middle N. asperus Zone. The associated spore-pollen assemblages are less diagnostic and indicate only a Middle to Late Eocene age referrable to the broader N. asperus Zone subdivision.

Proteacidites tuberculatus Zone: 2411 to 2413 metres

This zone is readily defined by occurrence of the marker spore Cyatheacidites annulatus in the highest and lowest sample. The occurrence of the dinoflagellates Protoellipsodinium simplex and Pyxidinopsis mammilatus, both manuscript names, support this zone assignment and an Early Oligocene age.

TABLE 1

INTERPRETATIVE DATA

SUMMARY OF PALYNOLOGICAL ANALYSIS OF YELLOWTAIL-2, GIPPSLAND BASIN

SAMPLE	DEPTH (METRES)	DEPTH (FEET)	ZONE	AGE	CONFIDENCE RATING	YIELD	SPORE-POLLEN DIVERSITY	DINOS DIVERSITY	COMMENTS
SWC 35	2411.0	7910.0	P. tuberculatus	Oligo-Miocene	0	Fair	Low	Moderate	
SWC 34	2412.0	7913.5	Non diagnostic	?	-	Poor	Low	Low	
SWC 33	2413.0	7916.5	P. tuberculatus	Oligo-Miocene	0	Fair	Moderate	Moderate	
SWC 32	2413.9	7919.5	Indeterminate	?	-	Barren	-	-	
SWC 31	2414.9	7923.0	Middle N. asperus	Late Eocene	1	Poor	Poor	Moderate	
SWC 120	2415.9	7926.0	Middle N. asperus	Late Eocene	1	Fair	Moderate	Moderate	
SWC 119	2417.0	7930.0	Middle N. asperus	Late Eocene	1	Fair	Moderate	Moderate	
SWC 118	2418.0	7933.0	Middle N. asperus	Late Eocene	1	Fair	Moderate	Moderate	
SWC 117	2419.0	7936.0	Middle N. asperus	Late Eocene	1	Fair	Moderate	High	
SWC 116	2419.9	7939.0	Middle N. asperus	Late Eocene	1	Fair	Poor	Moderate	
SWC 115	2421.0	7943.0	Middle N. asperus	Late Eocene	1	Fair	Moderate	High	
SWC 114	2421.9	7946.0	Indeterminate	?	-	Poor	Low	Low	
SWC 113	2423.0	7949.5	Indeterminate	?	-	Barren	-	-	
SWC 112	2423.9	7952.5	Upper L. balmei	Paleocene	0	Fair	Moderate	Moderate	
SWC 111	2424.9	7956.0	Upper L. balmei	Paleocene	0	Fair	Moderate	Moderate	
SWC 106	2430.0	7972.5	Upper L. balmei	Paleocene	2	Poor	Low	None	
SWC 104	2445.0	8021.5	Upper L. balmei	Paleocene	0	Fair	Moderate	Moderate	
SWC 53	2488.0	8163.0	Upper L. balmei	Paleocene	0	Fair	Moderate	Low	
SWC 7	2502.0	8208.5	Upper L. balmei	Paleocene	0	Fair	Moderate	Moderate	
SWC 4	2526.0	8287.5	Upper L. balmei	Paleocene	1	Fair	Moderate	Moderate	
SWC 3	2528.9	8297.0	Lower L. balmei	Paleocene	2	Fair	Moderate	Moderate	
SWC 2	2534.0	8313.5	Non diagnostic	Paleocene	-	Poor	Low	None	
SWC 1	2537.1	8324.0	Lower L. balmei	Paleocene	1	Fair	Moderate	Low	

PART II

BASIC DATA

TABLE 2: BASIC DATA

PALYNOMORPH DISTRIBUTION CHARTS

TABLE 2

BASIC DATA

YELLOWTAIL-2, GIPPSLAND BASIN

SAMPLE SAMPLE	DEPTH (METRES)	DEPTH (FEET)	YIELD	SPORE-POLLEN DIVERSITY	DINOS DIVERSITY
SWC 35	2411.0	7910.0	Fair	Low	Moderate
SEC 34	2412.0	7913.5	Poor	Low	Low
SWC 33	2413.0	7916.5	Fair	Moderate	Moderate
SWC 32	2413.9	7919.5	Barren	-	-
SWC 31	2414.9	7923.0	Poor	Poor	Moderate
SWC 120	2415.9	7926.0	Fair	Moderate	Moderate
SWC 119	2417.0	7930.0	Fair	Moderate	Moderate
SWC 118	2418.0	7933.0	Fair	Moderate	Moderate
SWC 117	2419.0	7936.0	Fair	Moderate	High
SWC 116	2419.9	7939.0	Fair	Poor	Moderate
SWC 115	2421.0	7943.0	Fair	Moderate	High
SWC 114	2421.9	7946.0	Poor	Low	Low
SWC 113	2423.0	7949.5	Barren	-	-
SWC 112	2423.9	7952.5	Fair	Moderate	Moderate
SWC 111	2424.9	7956.0	Fair	Moderate	Moderate
SWC 106	2430.0	7972.5	Poor	Low	None
SWC 104	2445.0	8021.5	Fair	Moderate	Moderate
SWC 53	2488.0	8163.0	Fair	Moderate	Low
SWC 7	2502.0	8208.5	Fair	Moderate	Moderate
SWC 4	2526.0	8287.5	Fair	Moderate	Moderate
SWC 3	2528.9	8297.0	Fair	Moderate	Moderate
SWC 2	2534.0	8313.5	Poor	Low	None
SWC 1	2537.1	8324.0	Fair	Moderate	Low

Well Name YELLOWTAIL-2 Basin GIPPSLAND Sheet No. 1 of 4

SAMPLE TYPE *	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
PALYNOMORPHS / DEPTHS	2411	2412	2413	2413.9	241'.9	2415.9	2417	2418	2419	2419.9	2421	2421.9	2423	2423.9	2424.9	2430	2445	2488	2502	2526	2528.9	2534	2537.1
A. qualumis																							
A. acutullus																							
A. luteoides																							
A. oculatus																							
A. sectus																							
A. triplaxis																							
A. obscurus																	\		\	\	\		\
B. disconformis																							
B. arcuatus																							
B. elongatus																		\	\				
B. mutabilis																							
B. otwayensis																							
B. elegansiformis																							
B. trigonalis																							
B. verrucosus																							
B. bombaxoides																							
B. emaciatus																	\						
C. bullatus																							
C. heskermensis							\																
C. horrendus																							
C. meleosus																							
C. apiculatus								cf															
C. leptos																							
C. striatus																							
C. vanraadshoovenii																							
C. orthoteichus/major																	\						\
C. annulatus	\		\																				
C. gigantis															\			\					
C. splendens			\		\		\					\			\		\		\	\	\		\
D. australiensis																							
D. granulatus	\																\				\	\	
D. tuberculatus																					\	\	
D. delicatus																							
D. semilunatus																							
E. notensis															\								
E. crassiexinus																							\
F. balteus																							
F. crater																							
F. lucunosus																							
F. palaequetrus																							
G. edwardsii															\		\		\	\			\
G. rudata																	\	\					\
G. divaricatus																							
G. gestus																							
G. catathus																							
G. cranwellae																							
G. wahooensis																							
G. bassensis																							
G. nebulosus																							
H. harrisii	\	\	\			\	\	\	\		\			\	\	\		\	\	\	\		\
H. astrus																							
H. elliottii			\																				
I. anguloclavatus																							
I. antipodus																							
I. notabilis																							
I. gremius	\																						
I. irregularis																							
J. peiratus																							
K. waterbolkii																							
L. amplus																							
L. crassus																							
L. ohaiensis																							
L. bainii																							
L. lanceolatus																		\					
L. balmei														\	\	\	\	\	\	\	\	\	\
L. florinii							\							\		\		\	\	\	\		\
M. diversus																		\					
M. duratus																							
M. grandis																							
M. perimagnus																							

*C = core; S = sidewall core; T = cuttings.

Well Name YELLOWTAIL-2 Basin GIPPSLAND Sheet No 2 of 4

PALYNOMORPHS / DEPTHS	2411	2412	2413	2413.9	2414.9	2415.9	2417	2418	2419	2419.9	2421	2421.9	2423	2423.9	2424.9	2430	2445	2488	2502	2526	2528.9	2534	2537.1
SAMPLE TYPE *	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
M. subtilis			\																\				
M. ornamentalis																							
M. hypolaenoides																							
M. homeopunctatus																							
M. parvus/mesonesus		\					\	\				\						\					
M. tenuis																							
M. verrucosus																							
M. australis																							
N. asperus		\	\					\	\														
N. asperoides																							
N. brachyspinulosus			\		\	\	\		\	\									\		\		
N. deminutus						\					\												
N. emarcidus/heterus						\	\	\	\									\					
N. endurus															\		\		\	\	\		\
N. falcatus			\				\																
N. flemingii															\		\	\	\		\	\	\
N. goniatus																							
N. senectus																							
N. vansteenisii						\	\																
O. sentosa																							
P. ochesis																							
P. catastus																		\			\		
P. demarcatus																					\		
P. magnus																							
P. polyoratus																			\	\	\		
P. vesicus																							
P. densus															\								
P. vellosus														\							\		
P. morganii/jubatus																							
P. mawsonii						\		\	\		\				\	\	\	\	\		\		\
P. reticulosaccatus																							
P. verrucosus																							
P. crescentis																							
P. esobalteus																							
P. langstonii															\		\		\				
P. reticulatus																							
P. simplex																							
P. varus																							
P. adenanthoides (Prot.)									\														\
P. alveolatus																							
P. amolosexinus																							
P. angulatus																				\			
P. annularis						\						\			\		\	\	\		\		\
P. asperopolus																							
P. biornatus																							
P. clarus																							
P. cleinei																							
P. confragosus																							
P. crassus									\														
P. delicatus																							
P. formosus																							
P. grandis																							
P. grevillaensis																							
P. incurvatus															\								
P. intricatus																							
P. kopiensis																							
P. lapis																							
P. latrobensis																							
P. leightonii																							
P. obesolabrus																							
P. obscurus																							
P. ornatus																							
P. otwayensis																							
P. pachypolus									\			\											
P. palisadus																							
P. parvus																							
P. plemmelus																							
P. prodigus																			\				
P. pseudomoides																							
P. recavus																							

* C=core: S=sidewall core: T=cutting

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Well Name YELLOWTAIL-2 Basin GIPPSLAND BASIN Sheet No. 3 of 4

SAMPLE TYPE *	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
DEPTHS / PALYNOMORPHS	2411	2412	2413	2413.9	2414.9	2415.9	2417	2418	2419	2419.9	2421	2421.9	2423	2423.9	2424.9	2430	2445	2488	2502	2526	2528.9	2534	2537.1
P. rectomarginis																							
P. reflexus																							
P. reticulatus																							
P. reticuloconcavus																							
P. reticuloscabratus																							
P. rugulatus																							
P. scitus																							
P. stipplatus																							
P. tenuiexinus														\	\	\			\		\	\	\
P. truncatus																							
P. tuberculatus																							
P. tuberculiformis																							
P. tuberculotumulatus																							
P. xestoformis (Prot.)																							
Q. brossus																							
R. boxatus																							
R. stellatus																\							
R. mallatus																							
R. trophus	\																						
S. cainozoicus																							
S. rotundus																							
S. digitatoides																							
S. marlinensis																							
S. rarus																							
S. meridianus																\	\		\	\	\		
S. prominatus																							
S. uvatus																							
S. punctatus																		\					
S. regium			\												cf.								
T. multistrixus (CP4)															\				\				\
T. textus																							
T. verrucosus																							
T. securus																							
T. confessus (C3)																		cf.					
T. gillii																							\
T. incisus																							
T. longus																							
T. phillipsii																	\				\		\
T. renmarkensis																							
T. sabulosus																							
T. simatus																							
T. thomasii																							
T. waiparaensis																							
T. adelaidensis (CP3)							\																
T. angurium																							
T. delicatus																							
T. geraniodes																							
T. leuros																							
T. lilliei																							
T. marginatus																							\
T. moultonii																							
T. paenestriatus																							
T. retequetrus																							
T. scabratus																							
T. sphaerica																							
T. magnificus (P3)																							
T. spinosus																							
T. ambiguus																							
T. chnosus																							
T. helosus															cf								
T. scabratus																							
T. sectilis																			cf.				
V. attinatus																							
V. cristatus																							
V. kopukuensis																							

*C= core; S= sidewall core; T= cuttings.

Well Name YELLOWTAIL-2 Basin GIPPSLAND Sheet No 4 of 4

DEPTHS / PALYNOMORPHS	2411	2412	2413	2413.9	2414.9	2415.9	2417	2418	2419	2419.9	2421	2421.9	2423	2423.9	2424.9	2430	2445	2488	2502	2526	2528.9	2534	2537.1
SAMPLE TYPE *	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
A. ramulifera	X										X												
I. elegans	X								X														
I. maculatum	X																						
L. machaerophorum	X	X				X	X																
O. centrocarpum	X	X	X		X	X	X	X	X	X	X												
P. simplex ms.	X	X	X								X												
P. mammalatus	X		X																				
P. pontus ms.	X		X																				
P. vietus ms.	X																						
S. ramosus		X	X		X						X	X							X				
H. rigaudae			X		X				X														
I. dispertitum			X																				
I. victorianum			X		X	X				X	X												
N. balcombiana			X																				
B. compta					X																		
H. variata ms.					X		X	X		X	X												
R. glabrum					X																		
B. nanum					X		X		X														
A. arcuatum						X																	
D. phosphoritica						X				X	X												
S. alcicornu						X					X												
P. delicatum ms.								X															
C. incompositum								X			X												
Reticulodinium sp.								X															
T. marlum ms.								X	X	X	X												
Holoroginella sp.								X															
A. capricornum									X														
Tanyosphaeridium sp.									X		X												
S. rhombicum									X														
C. corrugatum ms.									X														
M. fimbriatum									X														
Adnatosphaeridium sp.										X													
C. imperfecta ms.											X												
H. capricornum											X												
Lejenunia sp.											X												
C. fibrospinosum											X												
G. retiintexta														X	X		X						
D. medcalfii														X	X		X	X	X	X	X		
A. reticulense															X				X				
P. indentata															X		X	X	X	X	X		X
R. vitilare																	X						
G. palaeocenicum																	X		X				
S. essoi																	X		X				
A. homomorpha																			X	X			
S. dilwynense																X				X			X
T. hirsutum																					X		
D. pachyceros (sh. h).																					X		
T. hirsutum																							

* C=core; S=sidewall core; T=cutting

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APPENDIX 3

APPENDIX 3

QUANTITATIVE LOG ANALYSIS

YELLOWTAIL - 2

Quantitative Log Analysis

The wireline log data for the interval 2414m to 2541m has been quantitatively analysed using the HP41CV "Looklog" programme. All depths quoted are KB depths.

LOGS USED

GR, FDC, CNL, LLd and MSFL. A correction factor of 0.75 was applied to the log MSFL values to correct for mudcake effects.

ANALYSIS AND SHALE PARAMETERS USED

	a	1
	m	1.86
	n	2.12

Matrix density limits	2414-2421mKB:	2.90 - 3.2 gm/cc
	2421-2424mKB:	3.00 - 4.00 gm/cc
	2424-2541mKB:	2.65 - 2.665 gm/cc
Fluid Density	1.0 gm/cc	
Hydrocarbon Density	0.7 gm/cc	
Apparent Shale Density	2.5 gm/cc	
Apparent Shale Neutron Porosity	30%	
Apparent Shale Resistivity	4.5 ohm metres	
Gamma Ray Minimum	30 API units	
Gamma Ray Maximum	120 API units	

Values for a, n and m were derived from the analyses of cores from the nearby Mackerel reservoir sands.

SALINITIES

Apparent water salinities were calculated from log readings in water sands, by backing out Rwa from the Archie and Indonesian shaly sand relationships. Good agreement was obtained between clean sands. Water salinities are calculated to be 40,000 ppm NaCl equivalent.

HYDROCARBONS AND LITHOLOGY EFFECTS

The interval from 2414mKB to 2422mKB is composed of argillaceous, limonitic sandstone. From 2422mKB to 2424mKB the lithology is argillaceous, glauconite and pyrite rich sandstone. Grain density limits were adjusted to allow for the presence of these dense iron minerals. The limits are listed above.

An RFT sample at 2419mKB recovered 200cc of oil. This depth corresponds to the best calculated porosity and lowest calculated water saturation between 2414mKB and 2424mKB. It is possible that 1-2m of net sandstone is present from 2419m KB to 2421mKB. However, the rest of the interval is interpreted to be non-net. Although both analysis and core analysis indicate that porosity is reasonable, core analysis indicates that permeability is very low. Calculated Sw is very similar to calculated Sxo, which suggests that the oil here is not producible. (Sw is water saturation in the uninvaded zone. Sxo is water saturation in the invaded zone).

The top of clean "coarse clastics" sandstones is at 2424mKB. From 2424mKB to 2428mKB, calculated Sw is 74% to 85%, with water saturation generally decreasing upwards. However, once again comparison of Sw and Sxo suggests that the oil in this zone is immovable. This is supported by an RFT at 2424.5m which recovered only a scum of oil.

Sandstones below 2428m KB are interpreted to be 100% water bearing.

P. GLENTON/D. MORETON

DM/bjr
01971-31
25/11/82

YELLOWTAIL - 2

QUANTITATIVE LOG ANALYSIS SUMMARY

Depth Interval m	Thickness m	V Shale %	Matrix Density gm/cc	Average Porosity %	Sxo %	Sw %	Comments
2414 - 2415	1	31	2.95	9	82	82	Argillaceous, limonitic sandstone
2415 - 2416	1	36	3.01	11	74	74	from 2414 - 2422m KB.
2416 - 2417	1	28	2.95	11	75	75	
2417 - 2418	1	28	2.99	16	77	77	
2418 - 2419	1	31	3.08	15	85	85	2419m: recovered oil from RFT.
2419 - 2420	1	24	2.93	18	60	60	
2420 - 2421	1	33	3.09	17	59	59	
2421 - 2422	1	39	3.36	15	63	63	Pyritic, glauconitic sandstone
2422 - 2423	1	37	3.27	16	57	57	from 2422 - 2424m KB.
2423 - 2424	1	24	3.05	7	100	100	Tight, very pyritic.
2424 - 2425	1	9	2.65	19	75	74	Transition zone with immovable oil.
2425 - 2426	1	7	2.64	19	78	78	Transition zone with immovable oil.
2426 - 2427	1	9	2.65	19	85	85	Transition zone with immovable oil.
2427 - 2428	1	12	2.66	19	82	82	Transition zone with immovable oil.
2428 - 2429	1	9	2.66	20	90	90	Transition zone with immovable oil.
2429 - 2431	2	8	2.65	20	100	109	Clean water sands.
2431 - 2433	2	13	2.65	20	100	105	Clean water sands.
2433 - 2440	7	26	2.65	15	96	96	Clean water sands.
2440 - 2474	34	12	2.67	21.5	100	100	Clean water sands.
2476.5-2479.5	3	22	2.66	18	100	100	Clean water sands, slightly shaly.
2481 - 2486.5	5.5	0	2.66	25	100	100	Clean water sands.
2493 - 2497	4	10	2.66	18	100	100	Clean water sands.
2504 - 2514	10	14	2.65	21.8	100	100	Clean water sands.
2519 - 2521.5	2.5	30	2.64	19	100	100	Clean water sands, slightly shaly.
2531 - 2541	10	9	2.65	16	100	100	Clean water sands.

APPENDIX 4

APPENDIX 4

WIRELINE TEST REPORT

RFT PRETEST PRESSURES

SERVICE COMPANY: Schlumberger RFT RUN. NO: Suite 2, Run 1

WELL : Yellowtail-2
DATE : 6.7.82
OBSERVERS : P. Glenton, M. Fittal
G. Edmonds

SEAT NO.	DEPTH	DEPTH (Ss)	REASON 1 FOR TEST	GAUGE 2	TEMP 3 CORR.	UNITS 4	IHP psi	IHP ppg	FORMATION PRESSURE psi	FORMATION PRESSURE ppg	FHP psi	FHP ppg	TEST RESULT
1/1	1417.5	1396.5	PT	HP	Y	A	2301	9.55			2301	9.55	Seal failure
				Sch	N	G							
1/2	1414	1393	PT	HP	Y	A	2290	9.53			2289	9.52	Tight - then S.F.
				Sch	N	G							
1/3	1401.5	1380.5	PT	HP	Y	A	2269	9.52			2269	9.52	Seal failure
				Sch	N	G							
1/4	1393	1372	PT	HP	Y	A	2255	9.52			2255	9.52	Seal failure
				Sch	N	G							
1/5	1381.2	1360.2	PT	HP	Y	A	2237	9.53			2237	9.53	Seal failure
				Sch	N	G							
1/6	1376.5	1355.5	PT	HP	Y	A	2229	9.53			2229	9.53	Seal failure
				Sch	N	G							
1/7	2531.5	2510.5	PT	HP	Y	A	4074	9.47			4072	9.46	Seal failure
				Sch	N	G							

1. Pressure Test = PT
   Sample & Pressure Test = SPT

2. Gauges = SCH = Schlumberger Strain Gauge
   = HP = Hewlett Packard

3. Yes = Y
   No = N

4. PSIA = A
   PSIG = G

RFT PRETEST PRESSURES

SERVICE COMPANY: Schlumberger RFT RUN. NO: Suite 2, Run 1

WELL : Yellowtail-2
DATE : 6.7.82
OBSERVERS M. Fittall, P. Glenton
G. Edmonds

SEAT NO.	DEPTH	DEPTH (Ss)	REASON 1 FOR TEST	GAUGE 2	TEMP 3 CORR.	UNITS 4	IHP psi	IHP ppg	FORMATION PRESSURE psi	FORMATION PRESSURE ppg	FHP psi	FHP ppg	TEST RESULT
1/8	2530	2509	PT	HP	Y	A	4068	9.46	3538.2	8.30	4066	9.45	Valid (Slow build-up)
				Sch	N	G			3529	8.27			
1/9	2522	2501	PT	HP	Y	A	4053	9.45	3525.6	8.29	4053	9.45	Valid
				Sch	N	G			3526	8.29			
1/10	2507	2486	PT	HP	Y	A	4029	9.45	3500.1	8.28	4028	9.45	
				Sch	N	G			3492	8.26			
1/11	2484	2463	PT	HP	Y	A	3992	9.45	3467.4	8.28	3992	9.45	Valid
				Sch	N	G			3460	8.26			
1/12	2454	2433	PT	HP	Y	A	3945	9.46	3424.6	8.28	3944	9.45	Valid
				Sch	N	G			3418	8.26			
1/13	2433	2412	PT	HP	Y	A	3911	9.46	3393.6	8.28	3911	9.46	Valid
				Sch	N	G			3388	8.26			
1/14	2430	2409	PT	HP	Y	A	3906	9.46	3389.8	8.28	3906	9.46	Valid
				Sch	N	G			3383	8.26			

1. Pressure Test = PT
   Sample & Pressure Test = SPT

2. Gauges = SCH = Schlumberger Strain Gauge
   = HP = Hewlett Packard

3. Yes = Y
   No = N

4. PSIA = A
   PSIG = G

RFT PRETEST PRESSURES

SERVICE COMPANY: Schlumberger RFT RUN. NO: Suite 2, Run 1.

WELL : Yellowtail-2
DATE : 6.7.82
OBSERVERS : M. Fittall, P. Glenton, G. Edmonds

SEAT NO.	DEPTH	DEPTH (Ss)	REASON 1 FOR TEST	GAUGE 2	TEMP 3 CORR.	UNITS 4	IHP psi	IHP ppg	FORMATION PRESSURE psi	FORMATION PRESSURE ppg	FHP psi	FHP ppg	TEST RESULT
1/15	2429	2408	PT	HP	Y	A	3905	9.46	3388.8	8.28	3905	9.46	Valid
				Sch	N	G			3381	8.26			
1/16	2427.5	2406.5	PT	HP	Y	A	3903	9.46	3387.3	8.28	3903	9.46	Valid (Slow build-up)
				Sch	N	G			3379	8.26			
1/17	2426	2405	PT	HP	Y	A	3900	9.46	3384.9	8.28	3899	9.45	Valid
				Sch	N	G			3376	8.26			
1/18	2424.5	2403.5	PT	HP	Y	A	3897	9.45	3383.4	8.28	3897	9.45	Valid (seal failed after pressure stabil-ised
				Sch	N	G			3375	8.26			
1/19	2422	2401	PT	HP	Y	A	3893	9.45	-		3893	9.45	Seal failure
				Sch	N	G							
1/20	2421.5	2400.5	PT	HP	Y	A	3892	9.45	-		3891	9.45	V. tight
				Sch	N	C							
1/21	2419	2398	PT	HP	Y	A	3887	9.45	3389.4	8.31	3886	9.45	Valid
				Sch	N	G			3382	8.30			

1. Pressure Test = PT
   Sample & Pressure Test = SPT

2. Gauges = SCH = Schlumberger Strain Gauge
   = HP = Hewlett Packard

3. Yes = Y
   No = N

4. PSIA = A
   PSIG = G

RFT PRETEST PRESSURES

SERVICE COMPANY: Schlumberger RFT RUN. NO: Suite 2, Run 1

WELL : Yellowtail 2
DATE : 6.7.82
OBSERVERS : M. Fittall, P. Glenton, G. Edmonds

SEAT NO.	DEPTH	DEPTH (Ss)	REASON 1 FOR TEST	GAUGE 2	TEMP 3 CORR.	UNITS 4	IHP psi	IHP ppg	FORMATION PRESSURE psi	FORMATION PRESSURE ppg	FHP psi	FHP ppg	TEST RESULT
1/22	2417.3	2396.3	PT	HP	Y	A	3883	9.45	-		3884	9.45	V. tight
				Sch	N	G							
1/23	2415.5	2394.5	PT	HP	Y	A	3881	9.45	-		3881	9.45	Seal failure
				Sch	N	G							
1/24	2416	2395	PT	HP	Y	A	3881	9.45	-				Tight, then seal failure
				Sch	N	G							
1/25	2419	2398	SPT	HP	Y	A	3886	9.45	3390.3	8.32			Pretest OK - tight when attempted sample*
				Sch	N	G			3380	8.29			
1/26	2424.5	2403.5	SPT	HP	Y	A	3893	9.45	3382.7	8.28	3893	9.45	Pretest OK- tight when attempted sample*
				Sch	N	G			3374	8.26			
1/27	2425	2404	SPT	HP	Y	A	3893	9.44	-		3893	9.44	Seal failure
				Sch	N	G							
1/28	2425	2404	SPT	HP	Y	A	3893	9.44	-		3893	9.44	Seal failure
				Sch	N	G							

1. Pressure Test = PT
   Sample & Pressure Test = SPT

2. Gauges = SCH = Schlumberger Strain Gauge
   = HP = Hewlett Packard

3. Yes = Y
   No = N

4. PSIA = A
   PSIG = G

* Long nose probe in use on Run 1 gives good pretests but usually unsuitable for sampling in Latrobe type sandstones.

RFT PRETEST PRESSURES

SERVICE COMPANY: Schlumberger RFT RUN. NO: Suite 2, Runs 1, 2 & 3

WELL : Yellowtail-2
DATE : 6-7/7/82
OBSERVERS : P. Glenton, M. Fittall
G. Edmonds

SEAT NO.	DEPTH	DEPTH (Ss)	REASON 1 FOR TEST	GAUGE 2	TEMP 3 CORR.	UNITS 4	IHP psi	IHP ppg	FORMATION PRESSURE psi	FORMATION PRESSURE ppg	FHP psi	FHP ppg	TEST RESULT	
1/29	2424.8	2403.8	SPT	HP	Y	A	3892	9.44	3383.8	8.28	3893	9.44	Pretest OK	No flow on attempting to sample
				Sch	N	G			3373	8.25				
1/30	2425.5	2404.5	SPT	HP	Y	A	3894	9.44	3384.9	8.28	3894	9.44	Pretest OK	
				Sch	N	G			3376	8.26				
1/31	2426	2405	SPT	HP	Y	A	3894	9.44	3386.0	8.28	3894	9.44	Pretest OK	
				Sch	N	G			3377	8.26				
2/32	2424.5	2403.4	SPT	HP	Y	A	3894	9.45	3383.4	8.28	3890	9.44	22.71 + 3.791 segregated sample	see note 5
				Sch	N	G			3378	8.27				
3/33	2419	2398	SPT	HP	Y	A	3884	9.44	see note 6		3880	9.44	22.71 + 3.791 segregated sample	see note 5
				Sch	N	G			3384	8.30				

1. Pressure Test = PT
   Sample & Pressure Test = SPT

2. Gauges = SCH = Schlumberger Strain Gauge
   = HP = Hewlett Packard

3. Yes = Y
   No = N

4. PSIA = A
   PSIG = G

5 Replaced the long nosed probe with the Martineau probe for sampling on runs 2 & 3.

6 No HP formation pressure recorded on seat 33.
HP Gauge was still stabilising when sampling was commenced, and pressure build-up after sampling was very slow (Pressure at 2419m was obtained on seat 21 however).

RFT SAMPLE TEST REPORT

WELL : YELLOWTAIL-2 Suite No. 2

OBSERVER : GLENTON/FITTALL EDMONDS DATE : 6-7-82 RUN NO.: 1

Attempted to take sample	CHAMBER 1 (22.7 lit.)	CHAMBER 2 (3.79 lit.)
SEAT NO. from seats 25-31	Took sample at seat 31	
DEPTH	2426m	
A. RECORDING TIMES		
Tool Set		
Pretest Open		
Time Open		
Chamber Open		
Chamber Full		
Fill Time		
Start Build up		
Finish Build up		
Build Up time		
Seal Chamber		
Tool Retract		
Total Time	hrs.	hrs.
B. SAMPLE PRESSURES		
IHP	psig	psig
ISIP		
Initial Flowing Press.		
Final Flowing Press.		
Sampling Press. Range		
FSIP		
FHP		
Form.Press.(Horner)		
C. TEMPERATURE		
Depth Tool Reached	m	m
Max.Rec.Temp.	°C	°C
Time Circ. Stopped	hrs.	hrs.
Time since Circ.	hrs.	hrs.
Form.Temp.(Horner)	°C	°C
D. SAMPLE RECOVERY		
Surface Pressure	0 psig	psig
Amt Gas	tr	lit.
Amt oil	scum	lit.
Amt filtrate	2,500 cc	lit.
Amt Others		lit.
E. SAMPLE PROPERTIES		
Gas Composition		
C1	3084 ppm	ppm
C2	4341 ppm	ppm
C3	20122 ppm	ppm
IC4/nC4	20047 ppm	ppm
C5	9781 ppm	ppm
C6+	3492 ppm	ppm
CO2/H2S	Nil ppm	ppm
Oil Properties	44 °API@ 16 °C	°API@ °C
Colour	brown	
Fluorescence	creamy white	
GOR		
Water Properties		
Resistivity	0.3Ωm @ 19 °C	@ °C
NaCl Equivalent	23,000 ppm	ppm
Cl-titrated	13,800 ppm	ppm
NO3	62 ppm	ppm
Est.Water Type	Filtrate	
Mud Properties		
Resistivity (Rmf)	.215Ωm @°C @15°C	@°C
NaCl Equivalent	40,000 ppm	ppm
Cl- titrated	18,000 ppm	ppm
Calibration		
Calibration Press.	psig	psig
Calibration Temp.	°C	°C
Hewlett Packard No.		
Mud Weight		
Calc.Hydrostatic		
RFT Chokesize	0.76mm	0.51mm
REMARKS	Sample attempted at 7 seats - no flow with long nosed probe.	

RFT SAMPLE TEST REPORT

WELL : YELLOWTAIL-2

Suite 2

OBSERVER : GLENTON/FITTAL EDMONDS   DATE : 7-7-82   RUN NO.: 2

	CHAMBER 1 (22.7 lit.)	CHAMBER 2 (3.79 lit.)
SEAT NO.	32	32
DEPTH	2424.5	2424.5
A.RECORDING TIMES		
Tool Set	0253 hrs	
Pretest Open	0253 hrs	
Time Open	-	
Chamber Open	0303 hrs	0316 hrs
Chamber Full	0312 hrs	0319 hrs
Fill Time	9 mins	3 mins
Start Build up	0312 hrs	0319 hrs
Finish Build up	0314 hrs	0320 hrs
Build Up time	2 mins	1 min
Seal Chamber	0315 hrs	0320 hrs
Tool Retract	Did not retract	0322 hrs
Total Time	22 mins	6 mins
B.SAMPLE PRESSURES		
IHP	3894 psig	psig
ISIP	3430 (mud cake compression?)	
Initial Flowing Press.	3010	3205
Final Flowing Press.	3060	3207
Sampling Press. Range	50	2
FSIP	3383.4	3383.4
FHP		3890
Form.Press.(Horner)		
C.TEMPERATURE		
Depth Tool Reached	2424.5 m	m
Max.Rec.Temp.	83.3 °C	°C
Time Circ. Stopped	1500 hrs.	hrs.
Time since Circ.	12 hrs.	hrs.
Form.Temp.(Horner)	97.5 °C	°C
D.SAMPLE RECOVERY		
Surface Pressure	600 psig	0 psig
Amt Gas	.026 m^3	.0037 m^3
Amt oil	scum	faint scum
Amt Water	12000 cc lt br	3000 cc clr bn
Amt Others	+8600 cc gy bn water/filtrate	
E.SAMPLE PROPERTIES	+ poss. tr. mud	
Gas Composition		
C1	5054 ppm	89090 ppm
C2	3192 ppm	18386 ppm
C3	7308 ppm	18735 ppm
IC4/nC4	2717 ppm	5314 ppm
C5	1092 ppm	1310 ppm
C6+	ppm	ppm
CO2/H2S	5000/ > 200 ppm	5000/60 ppm
Oil Properties	°API@ °C	°API@ °C
Colour	brown	brown
Fluorescence	creamy yellow	creamy yellow
GOR		
Water Properties	pH 6.5	pH 7
Resistivity	.24 Ωm @ 18 °C	.24 Ωm @ 18 °C
NaCl Equivalent	30000 ppm	30000 ppm
Cl-titrated	18000 ppm	18000 ppm
NO3	22 ppm	22 ppm
Est.Water Type	Fm water/some filtrate	Fm water/some filtrate
Mud Properties		
Resistivity Rmf	.215 Ωm @ 15° C	.215 Ωm @ 15°C
NaCl Equivalent	40000 ppm	40000 ppm
Cl- titrated	18000 ppm	18000 ppm
Calibration		
Calibration Press.	psig	psig
Calibration Temp.	°C	°C
Hewlett Packard No.		
Mud Weight		
Calc.Hydrostatic		
RFT Chokesize	0.76 mm	0.51 mm
REMARKS	Martineau probe used Mud NO_3 ≈ 90	

RFT SAMPLE TEST REPORT

WELL : YELLOWTAIL-2

Suite 2

OBSERVER : GLENTON/FITTALL EDMONDS   DATE : 7-7-82   RUN NO.: 3

	CHAMBER 1 (22.7 lit.)		CHAMBER 2 (3.79 lit.)	
SEAT NO.	33		33	
DEPTH	2419		2419	
A.RECORDING TIMES				
Tool Set	0606 hrs			
Pretest Open	0606 hrs			
Time Open	-			
Chamber Open	0608 hrs		0629 hrs	
Chamber Full	0620 hrs		0634 hrs	
Fill Time	12 mins		5 mins	
Start Build up	0620 hrs		0634 hrs	
Finish Build up	.		0637 hrs	
Build Up time			3 mins	
Seal Chamber	0628 hrs		0637 hrs	
Tool Retract	Did not retract		0645 hrs	
Total Time	22 mins		16 mins	
B.SAMPLE PRESSURES				
IHP		psig		psig
ISIP	3390.6			
Initial Flowing Press.	955		960	
Final Flowing Press.	915		905	
Sampling Press. Range	-40		-55	
FSIP	3371 still building		3381 building slowly	
FHP			3880	
Form.Press.(Horner)				
C.TEMPERATURE				
Depth Tool Reached	2419	m		m
Max.Rec.Temp.		°C		°C
Time Circ. Stopped	1500	hrs.		hrs.
Time since Circ.	18	hrs.		hrs.
Form.Temp.(Horner)	97.5	°C		°C
D.SAMPLE RECOVERY				
Surface Pressure	400	psig		psig
Amt Gas	0.036 m^3	lit.		lit.
Amt oil	200 cc	lit.		lit.
Amt Water/filtrate	21000 cc	lit.		lit.
Amt Others		lit.		lit.
E.SAMPLE PROPERTIES				
Gas Composition C1	68531	ppm		ppm
C2	60265	ppm		ppm
C3	145140	ppm		ppm
IC4/nC4	58935	ppm		ppm
C5	12838	ppm		ppm
C6+		ppm		ppm
CO2/H2S	- /30	ppm		ppm
Oil Properties	43.5 °API@ 16	°C	°API@	°C
Colour	dk brown, waxy			
Fluorescence	gold			
GOR				
Water Properties	pH 7			
Resistivity	.26 @ 26	°C	@	°C
NaCl Equivalent	23000	ppm		ppm
Cl-titrated	17500	ppm		ppm
NO3	20	ppm		ppm
Est.Water Type				
Mud Properties				
Resistivity	.215 Ωm @ 15°C		@°C	
NaCl Equivalent	40000	ppm		ppm
Cl- titrated	18000	ppm		ppm
Calibration				
Calibration Press.		psig		psig
Calibration Temp.		°C		°C
Hewlett Packard No.				
Mud Weight				
Calc.Hydrostatic				
RFT Chokesize	0.76 mm		0.51 mm	
REMARKS	Martineau probe. API determined with refractometer.		Seg. ch. No. 1128 preserved for full fluid analysis.	

APPENDIX 5

APPENDIX 5

GEOCHEMICAL REPORT

GEOCHEMICAL REPORT
YELLOWTAIL-2
GIPPSLAND BASIN, VICTORIA
by
J.K. Emmett.

Esso Australia Ltd.
Geochemical Report.

December 1982.

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YELLOWTAIL-2

INTRODUCTION

A range of geochemical analyses were performed on samples of canned cuttings and sidewall cores collected during drilling of Yellowtail-2. Canned cuttings composited over 15 metre intervals were collected from 290 metres down to 2566 metres (T.D.). Alternate 15 metre intervals were analysed for C_{1-4} headspace hydrocarbon gases over the whole sequence. Selected samples we hand picked for more detailed analyses such as Total Organic Carbon (T.O.C.) and C_{15+} liquid and gas chromatography. Vitrinite Reflectance ($R_o$max) was measured by Professor A.C. Cook of Wollongong.

Oil shows were encountered in Yellowtail-2 between about 2414m and 2429.5m. An oil sample RFT -3, at 2419m was analysed for API gravity, % sulphur, whole oil, C_{4-7} and C_{15+} gas chromatography, and C_{15+} liquid chromatography.

DISCUSSION OF RESULTS

The detailed headspace C_{1-4} hydrocarbon gas analysis data are listed in Table-1, and have been plotted in Figure-1. The almost regular "saw-tooth" pattern displayed in Figure-1 (particularly that shown in the "% wet gas" track) may be cause for suspicion that one of the gas chromatography columns, employed in the dual column cuttings gas analysis system, was not functioning properly. This fault in the gas analysis would be more apparent at low gas levels. It is however, obvious that the C_{1-4} gas content is very low over the whole sequence, indicating no significant hydrocarbon source potential for any of the formations penetrated. The increase in wet (C_2 +) content to values greater than 50% below the top of Latrobe Group sediments may indicate some source rock potential, but is also partly due to contamination by the oil shows.

As drilling of Yellowtail-2 ceased after testing an essentially Top of Latrobe play, the subsequent amount of source rock information available is relatively small. There are few Total Organic Carbon (T.O.C.) values, and these are given in Table 2. The Lakes Entrance Formation has uniformly low T.O.C. values (average T.O.C. = 0.37%, 9 samples) and therefore has a poor hydrocarbon source potential. A single T.O.C. determination for the Gurnard Formation at the top of the Latrobe Group sediments is also very low (T.O.C. = 0.13%), and although it is dangerous to interpret too much from isolated analyses, this value is similar to others for this unit in Yellowtail-1 and other wells, and hence indicative of a poor hydrocarbon source potential. Three T.O.C. determinations from the Latrobe Group "Coarse Clastics" (average T.O.C. = 0.98%) are somewhat higher than those in the section above, indicating a fair-good potential to source hydrocarbons.

Vitrinite reflectance ($\bar{R}_o max$) data determined on samples towards the bottom of Yellowtail-2 (Table 3 and Appendix-1) indicate that the entire section penetrated is still presently immature.

The C_{15+} liquid chromatography results from selected canned cuttings are given in Table 4. Total extract values for all the samples are only moderately rich and each sample contains a high proportion of non-hydrocarbon (asphaltenes and Nitrogen-, Sulphur- and Oxygen- (N.S.O.) linked compounds), which is indicative of immaturity. C_{15+} saturate chromatograms of the extracts are shown in figures 2-4 for the Lakes Entrance Formation and Figure 5 for the Latrobe Group sediments. The chromatograms are fairly similar in appearance, showing a mixture of marine and non-marine organic matter, the former indicated by an envelope of lower molecular weight (n-C_{17} to n-C_{22}) n-alkanes and a relatively high phytane (peak 'b') content, with the latter indicated by a prominent amount of high molecular weight (n-C_{23+}) n-alkanes with odd over even carbon number predominance, as well as a significant amount of unresolved high molecular weight sterane/triterpane material.

Table 5 gives C_{4-7} gasoline - range hydrocarbon data for an oil sample (RFT-3 at 2419 metres) recovered from Yellowtail-2. This oil sample had an API gravity of 42.6^{o} (at 60^{o}F) and a sulphur content of 0.07%. C_{15+} Liquid chromatography results for this oil (Table 6), together with the corresponding "whole oil" and C_{15+} gas chromatographs (figures 6 and 7 respectively) show that the Yellowtail-2 oil is a mature, essentially paraffinic based crude derived from non-marine source rocks and is almost identical with that discovered in Yellowtail-1.

CONCLUSIONS

1. As in the case of Yellowtail-1, little significant petroleum source rock information can be derived from samples obtained from Yellowtail-2, which was completed after testing a Top of Latrobe coarse clastics oil play.

2. The entire section penetrated in Yellowtail-2 is presently immature.

3. Cuttings gas (C_{1-4}) data and a limited number of T.O.C. results indicate that the undifferentiated Latrobe Group sediments have the best hydrocarbon source potential.

4. Oil recovered from Yellowtail-2 is a waxy, paraffinic-based crude of non-marine origin, and is similar to that obtained from Yellowtail-1.

0257L

ABLE 1

C1-C4 HYDROCARBON ANALYSES

REPORT A - HEADSPACE GAS

ASIN - GIPPSLAND
ELL - YELLOWTAIL 2

AMPLE NO.	DEPTH	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	WET C2-C4	TOTAL C1-C4	WET/TOTAL PERCENT	TOTAL GAS M	TOTAL GAS E	TOTAL GAS P	TOTAL GAS IB	TOTAL GAS NB	WET GAS E	WET GAS P	WET GAS IB	WET GAS NB
		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)								GAS COMPOSITION (PERCENT)								
2473 B	305.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2473 D	335.00	86	0	0	0	0	0	86	.00	100.	0.	0.	0.	0.	0.	0.	0.	0.
2473 F	365.00	26	0	0	0	0	0	26	.00	100.	0.	0.	0.	0.	0.	0.	0.	0.
2473 H	395.00	0	0	9	6	0	15	15	100.00	0.	0.	60.	40.	0.	0.	60.	40.	0.
2473 J	425.00	56	9	9	2	0	20	76	26.32	74.	12.	12.	3.	0.	45.	45.	10.	0.
2473 L	455.00	0	0	3	0	0	3	3	100.00	0.	0.	100.	0.	0.	0.	100.	0.	0.
2473 N	485.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2473 P	515.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2473 R	545.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2473 T	575.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2473 V	605.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2473 X	635.00	269	17	8	0	0	25	294	8.50	91.	6.	3.	0.	0.	68.	32.	0.	0.
2473 Z	665.00	1	0	0	0	0	0	1	.00	100.	0.	0.	0.	0.	0.	0.	0.	0.
2474 B	695.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 D	725.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 F	755.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 H	785.00	79	4	7	2	0	13	92	14.13	86.	4.	8.	2.	0.	31.	54.	15.	0.
2474 J	815.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 L	860.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 N	890.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 P	920.00	86	5	26	2	1	34	120	28.33	72.	4.	22.	2.	1.	15.	76.	6.	3.
2474 R	950.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 T	980.00	33	3	14	0	0	17	50	34.00	66.	6.	28.	0.	0.	18.	82.	0.	0.
2474 V	1010.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2474 X	1040.00	51	2	6	1	1	10	61	16.39	84.	3.	10.	2.	2.	20.	60.	10.	10.
2474 Z	1070.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 B	1100.00	27	2	12	1	0	15	42	35.71	64.	5.	29.	2.	0.	13.	80.	7.	0.
2475 D	1130.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 F	1160.00	30	2	9	1	0	12	42	28.57	71.	5.	21.	2.	0.	17.	75.	8.	0.
2475 H	1190.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 J	1220.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 L	1250.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 N	1280.00	335	11	27	9	4	51	386	13.21	87.	3.	7.	2.	1.	22.	53.	18.	8.
2475 P	1310.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 R	1340.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 T	1370.00	64	5	38	4	2	49	113	43.36	57.	4.	34.	4.	2.	10.	78.	8.	4.
2475 V	1400.00	511	6	17	0	3	26	537	4.84	95.	1.	3.	0.	1.	23.	65.	0.	12.
2475 X	1430.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2475 Z	1460.00	64	11	26	17	3	57	121	47.11	53.	9.	21.	14.	2.	19.	46.	30.	5.
2476 B	1490.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2476 D	1520.00	134	10	10	15	1	36	170	21.18	79.	6.	6.	9.	1.	28.	28.	42.	3.
2476 F	1550.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2476 H	1580.00	129	10	25	4	1	40	169	23.67	76.	6.	15.	2.	1.	25.	63.	10.	2.
2476 J	1610.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.
2476 L	1640.00	35	5	7	3	1	16	51	31.37	69.	10.	14.	6.	2.	31.	44.	19.	6.
2476 N	1670.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE 1 (CONT'D)

C1-C4 HYDROCARBON ANALYSES

REPORT A - HEADSPACE GAS

BASIN - GIPPSLAND
WELL - YELLOWTAIL 2

SAMPLE NO.	DEPTH	METHANE C1	ETHANE C2	PROPANE C3	IBUTANE IC4	NBUTANE C4	WET C2-C4	TOTAL C1-C4	WET/TOTAL PERCENT	TOTAL GAS M	TOTAL GAS E	TOTAL GAS P	TOTAL GAS IB	TOTAL GAS NB	WET GAS E	WET GAS P	WET GAS IB	WET GAS NB
		GAS CONCENTRATION (VOLUME GAS PER MILLION VOLUMES CUTTINGS)								GAS COMPOSITION (PERCENT)								
72476 R	1730.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72476 T	1760.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72476 V	1790.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72476 X	1820.00	68	6	9	3	1	19	87	21.84	78.	7.	10.	3.	1.	32.	47.	16.	5
72476 Z	1850.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 B	1880.00	18	0	10	0	0	10	28	35.71	64.	0.	36.	0.	0.	0.	100.	0.	0
72477 D	1910.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 F	1940.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 H	1970.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 J	2000.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 L	2030.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 N	2060.00	77	10	11	2	1	24	101	23.76	76.	10.	11.	2.	1.	42.	46.	8.	4
72477 P	2090.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 R	2120.00	34	3	6	1	0	10	44	22.73	77.	7.	14.	2.	0.	30.	60.	10.	0
72477 T	2150.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 V	2180.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 X	2210.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72477 Z	2240.00	40	7	13	3	0	23	63	36.51	63.	11.	21.	5.	0.	30.	57.	13.	0
72478 B	2270.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72478 D	2300.00	0	0	0	0	0	0	0	.00	0.	0.	0.	0.	0.	0.	0.	0.	0
72478 F	2330.00	13	2	4	0	0	6	19	31.58	68.	11.	21.	0.	0.	33.	67.	0.	0
72478 H	2360.00	13	4	10	0	0	14	27	51.85	48.	15.	37.	0.	0.	29.	71.	0.	0
72478 J	2390.00	78	18	25	10	6	59	137	43.07	57.	13.	18.	7.	4.	31.	42.	17.	10
72478 L	2420.00	115	25	38	12	9	84	199	42.21	58.	13.	19.	6.	5.	30.	45.	14.	11
72478 N	2450.00	54	10	30	60	17	117	171	68.42	32.	6.	18.	35.	10.	9.	26.	51.	15
72478 P	2480.00	61	20	46	12	10	88	149	59.06	41.	13.	31.	8.	7.	23.	52.	14.	11
72478 R	2510.00	35	9	14	4	5	32	67	47.76	52.	13.	21.	6.	7.	28.	44.	13.	16
72478 T	2540.00	37	14	18	6	3	41	78	52.56	47.	18.	23.	8.	4.	34.	44.	15.	7
72478 V	2565.00	67	24	41	24	10	99	166	59.64	40.	14.	25.	14.	6.	24.	41.	24.	10

TABLE 2 : TOTAL ORGANIC CARBON REPORT

BASIN - GIPPSLAND
WELL - YELLOWTAIL 2

SAMPLE NO.	DEPTH	AGE	FORMATION	AN	TOC%	AN	TOC%	AN	TOC%	DESCRIPTION
72468 S	1940.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.45					LT OL GRY CLYST,V CALC.
72468 R	2090.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.42					LT OL GRY CLYST,V CALC.
72468 Q	2169.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.42					MED GRY CLYST,V CALC.
72468 P	2258.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.37					MED GRY CLYST,V CALC.
72468 M	2305.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.36					MED GRY SLTY CLYST,CALC.
72467 C	2355.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.38					LT OLGRY CLYST,MICA,CALC
72468 H	2370.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.30					MED GRY CLYST,V CALC.
72468 E	2400.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.22					LT OLGRY CLYST,GLAU,CALC
72466 J	2412.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	1	.40					M-DK GRY SLTY CLYST.

===> DEPTH : .00 TO 2412.00 METRES. <=== I ===> AVERAGE TOC : .37 % EXCLUDING VALUES GREATER THAN 10.00 % <===

SAMPLE NO.	DEPTH	AGE	FORMATION	AN	TOC%	AN	TOC%	AN	TOC%	DESCRIPTION
72466 G	2414.90	EOCENE-LATE CRET.	LATROBE/GURNARD FM.	1	.13					BRN'GRY PRLYSRTD SLTYSST

===> DEPTH : 2413.00 TO 2415.00 METRES. <=== I ===> AVERAGE TOC : .13 % EXCLUDING VALUES GREATER THAN 10.00 % <===

SAMPLE NO.	DEPTH	AGE	FORMATION	AN	TOC%	AN	TOC%	AN	TOC%	DESCRIPTION
72467 K	2430.00	EOCENE-LATE CRET.	LATROBE GROUP	1	1.24					OLGRY PRLYSRTD SST,CALC.
72467 H	2476.00	EOCENE-LATE CRET.	LATROBE GROUP	1	1.55					DK GRY SLST,WH SST LAYRS
72466 A	2537.10	EOCENE-LATE CRET.	LATROBE GROUP	1	.16					M-DK GRY PRLY SRTD SST.

===> DEPTH : 2415.00 TO 2537.10 METRES. <=== I ===> AVERAGE TOC : .98 % EXCLUDING VALUES GREATER THAN 10.00 % <===

TABLE 3: VITRINITE REFLECTANCE REPORT

ASIN - GIPPSLAND
ELL - YELLOWTAIL 2

SAMPLE NO.	DEPTH	AGE	FORMATION	AN	MAX. RO	FLUOR. COLOUR	NO.CNTS.	MACERAL TYPE
72467 C	2355.00	MIOCENE-OLIGOCENE	LAKES ENTRANCE	5	.55	GRN-YEL	?1	E>I>?V,D.O.M.RARE
72467 H	2476.00	EOCENE-LATE CRET.	LATROBE GROUP	5	.44	GRN-YEL-OR	20	V>E>I,SPOR'NTE COMMON

TABLE 4 C_{15+} LIQUID CHROMATOGRAPHY DATA

DEPTH IN METRES (KB)	FORMATION/EQUIVALENT	AGE	TOTAL EXTRACT (ppm)	HC's (ppm)	NON HC's (ppm)	SULPHUR (ppm)	EXTRACT COMPOSITION % SATS	AROM.	N.S.O.	ASPH.	SULPHUR
2225-2240	Lakes Entrance Formation	Miocene	249	-	-	-	-	-	-	166	-
2300-2315	Lakes Entrance Formation	Miocene	301	-	-	-	-	-	-	218	-
2405-2420	Lakes Entrance Formation/ Latrobe Group	Miocene-Oligocene/ Eocene	216	-	-	-	-	-	-	150	-
2540-2555	Latrobe Group	Paleocene	317	45	272	-	16	29	63	209	-

TABLE 5

C4-C7 OIL 27 AUG 82

75850 AUSTRALIA, YELLOWTAIL-2, RFT-3, 2419 M

	TOTAL PERCENT	NORM PERCENT		TOTAL PERCENT	NORM PERCENT
METHANE	0.000		CHEX	0.699	7.11
ETHANE	0.000		33-DMP	0.000	0.00
PROPANE	0.032		11-DMCP	0.071	0.72
IBUTANE	0.087	0.89	2-MHEX	0.304	3.10
NBUTANE	0.255	2.60	23-DMP	0.113	1.15
IPENTANE	0.455	4.63	3-MHEX	0.299	3.04
NPENTANE	0.624	6.35	1C3-DMCP	0.145	1.48
22-DMB	0.023	0.24	1T3-DMCP	0.133	1.36
CPENTANE	0.058	0.59	1T2-DMCP	0.234	2.39
23-DMB	0.084	0.85	3-EPENT	0.000	0.00
2-MP	0.471	4.79	224-TMP	0.000	0.00
3-MP	0.275	2.79	NHEPTANE	1.137	11.57
NHEXANE	0.946	9.62	1C2-DMCP	0.031	0.32
MCP	0.460	4.68	MCH	2.419	24.62
22-DMP	0.000	0.00	ECP	0.118	1.20
24-DMP	0.010	0.11	BENZENE	0.003	0.03
223-TMB	0.010	0.10	TOLUENE	0.360	3.66

TOTALS

ALL COMP	9.857
GASOLINE	9.825

SIG COMP RATIOS

C1/C2	3.48
A /D2	6.97
D1/D2	1.22
C1/D2	11.70
PENT/IPENT	1.37
CH/MCP	1.52

PARAFFIN INDEX 1	1.176
PARAFFIN INDEX 2	20.466

INTERPRETER - R.E. METTER
ANALYST - H.M. FRY

TABLE 6

YELLOWTAIL-2 CRUDE OIL: RFT-3, 2419 metres

CHROMATOGRAPHY SUMMARY

SATURATE %	AROMATICS %	N.S.O. %	SULPHUR %	ASPHALTENES %	NON ELUTED %
58.9	12.6	3.1	0.0	1.7	23.7

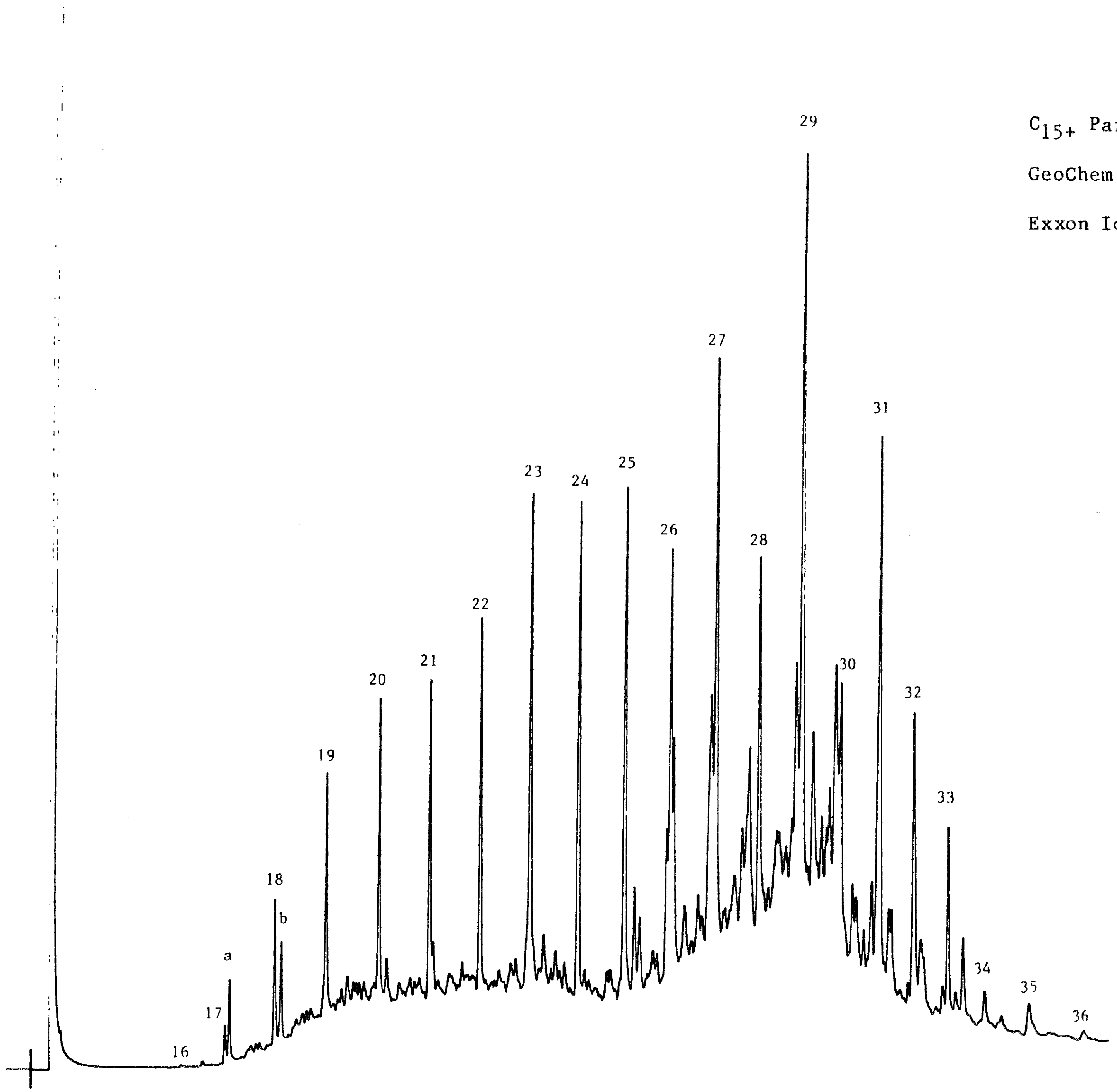
PE601335

This is an enclosure indicator page.
The enclosure PE601335 is enclosed within the container PE902649 at this location in this document.

The enclosure PE601335 has the following characteristics:

ITEM_BARCODE = PE601335
CONTAINER_BARCODE = PE902649
NAME = C1-4 Cuttings Gas Log
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = C1-C4 Cuttings Gas Log (enclosure from WCR vol.2) for Yellowtail-2
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W779
WELL_NAME = Yellowtail-2
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)



C_{15+} Paraffin-Naphthene Hydrocarbons

GeoChem Sample No. E536-001

Exxon Identification No. 72477-Z

FIGURE 2: YELLOWTAIL-2, 2225-40 METRES, LAKES ENTRANCE FORMATION

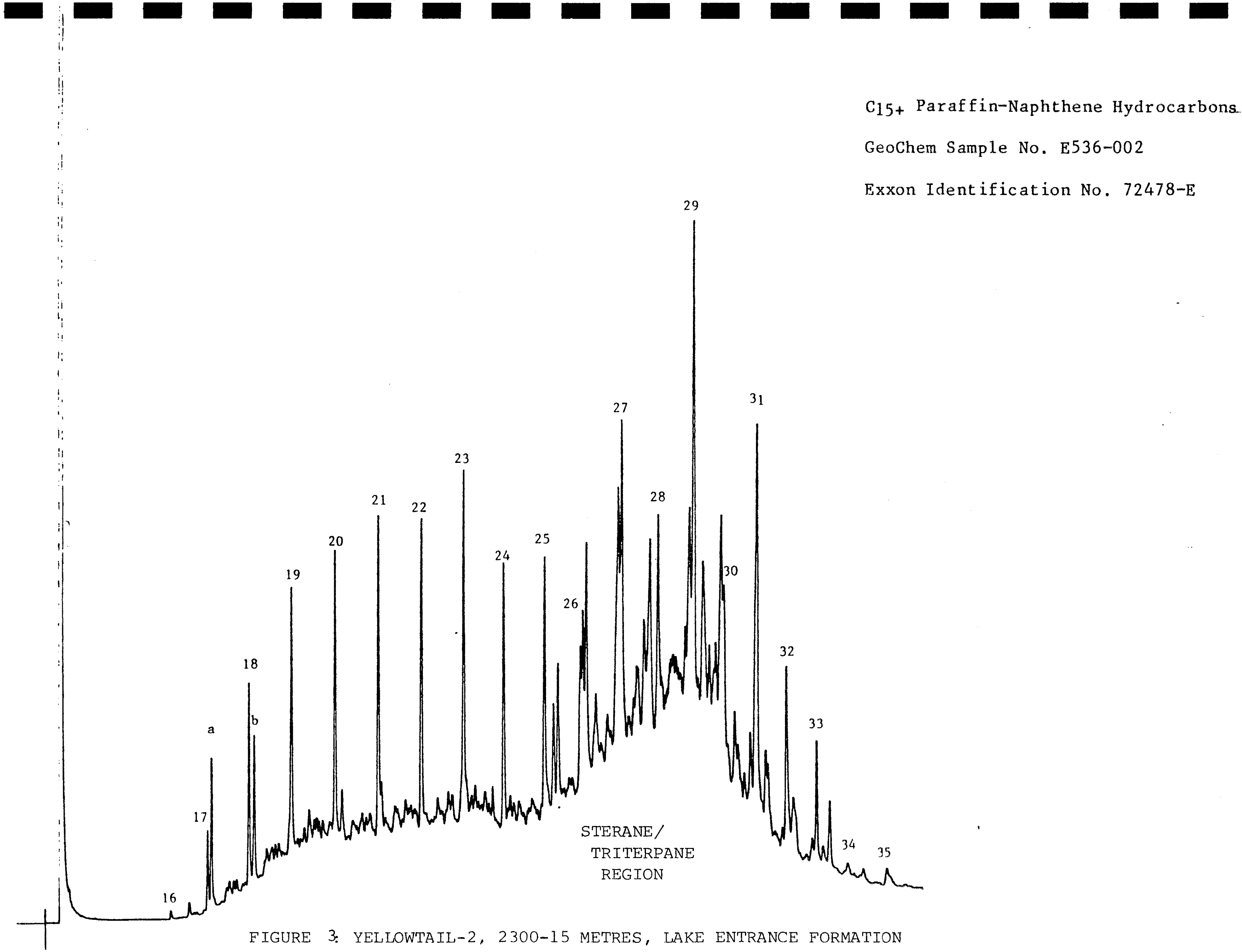
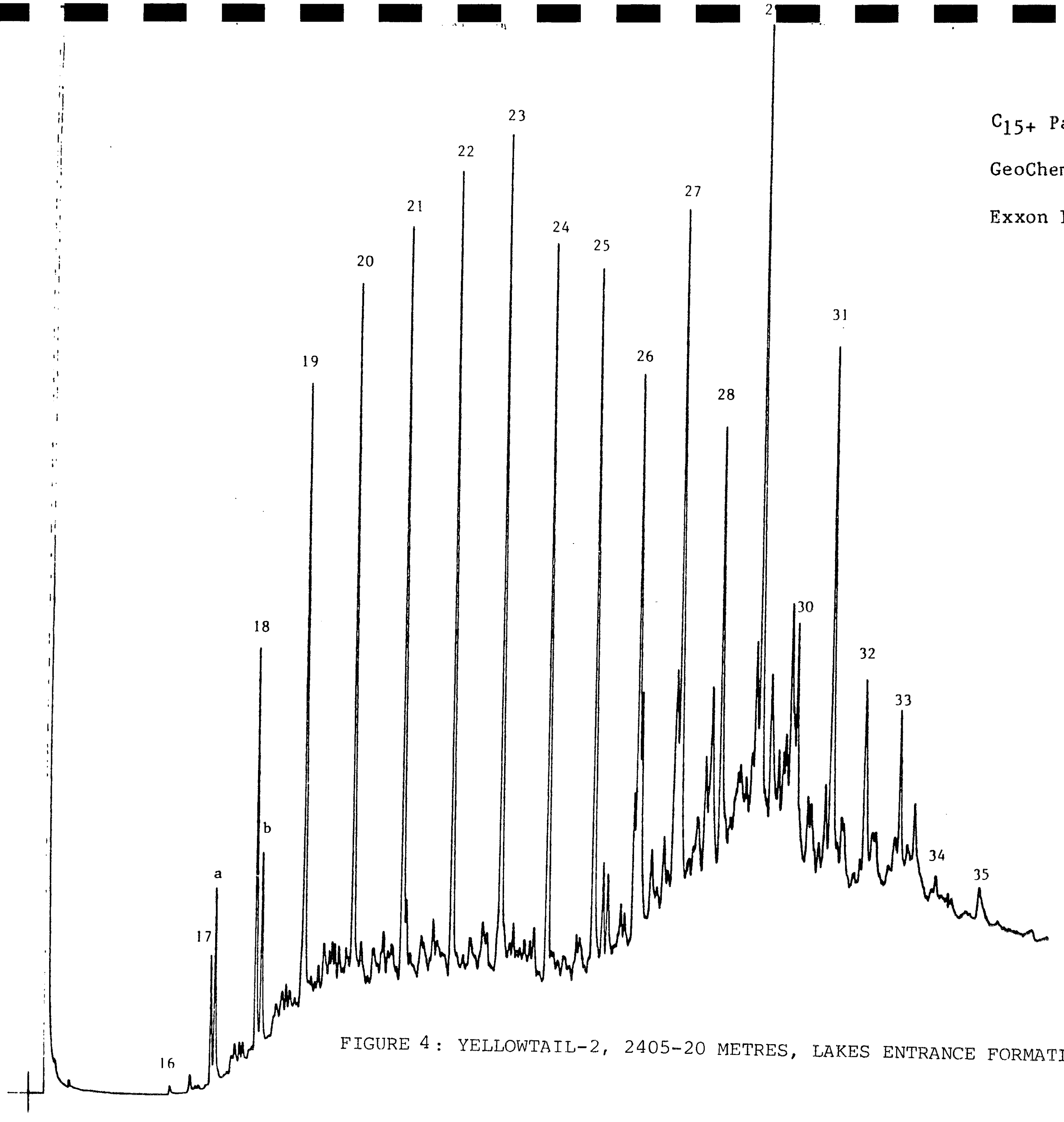


FIGURE 3: YELLOWTAIL-2, 2300-15 METRES, LAKE ENTRANCE FORMATION



C_{15+} Paraffin-Naphthene Hydrocarbons

GeoChem Sample No. E536-003

Exxon Identification No. 72478-L

FIGURE 4: YELLOWTAIL-2, 2405-20 METRES, LAKES ENTRANCE FORMATION/LATROBE GROUP

C_{15+} Paraffin-Naphthene Hydrocarbons

GeoChem Sample No. E536-004

Exxon Identification No. 72478-U

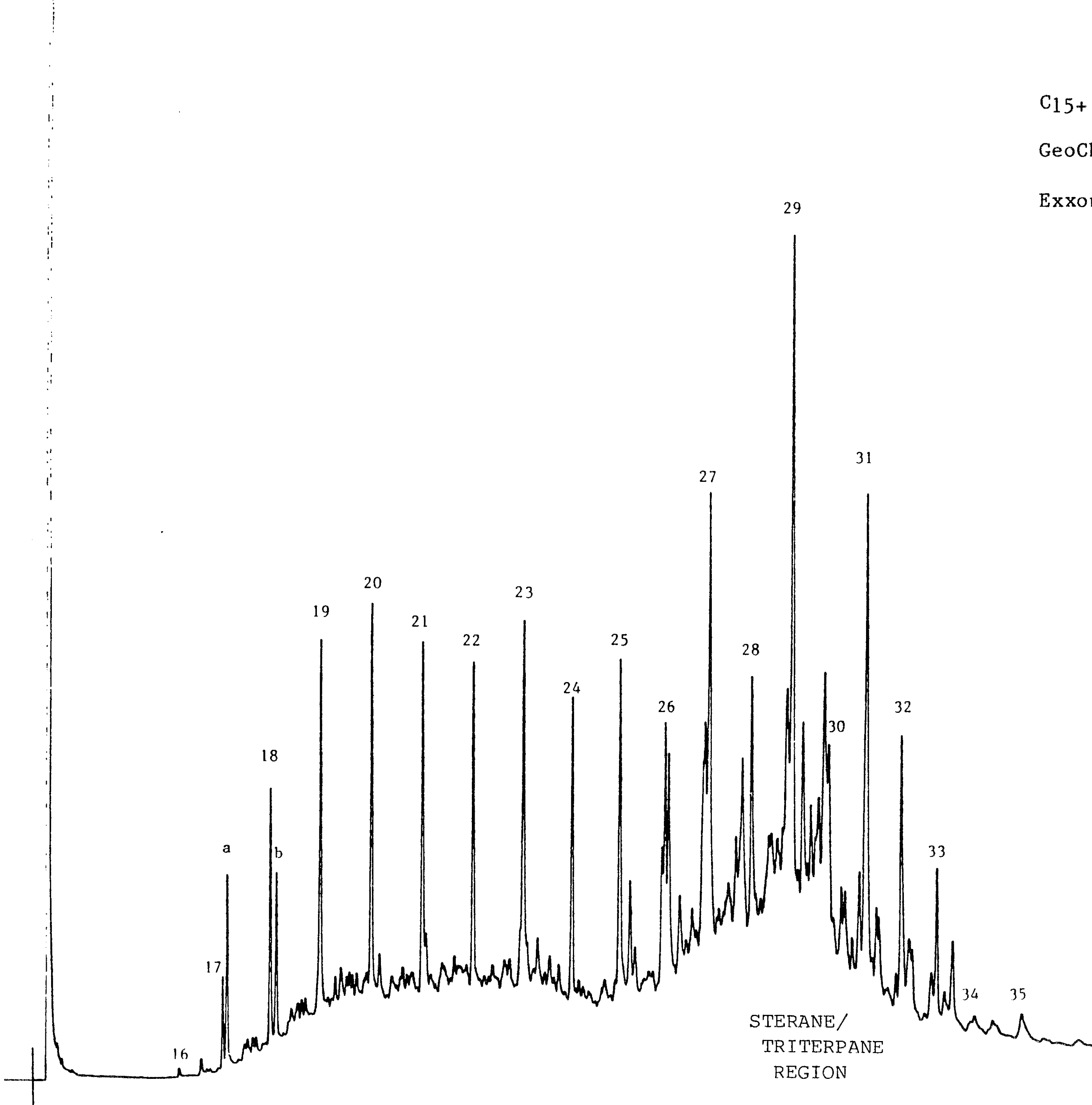


FIGURE 5: YELLOWTAIL-2, 2540-2555 METRES, LATROBE GROUP.

S Compounds

FIGURE 6, YELLOWTAIL-2 CRUDE OIL, RFT 3, 2419m., WHOLE OIL GAS CHROMATOGRAPH.

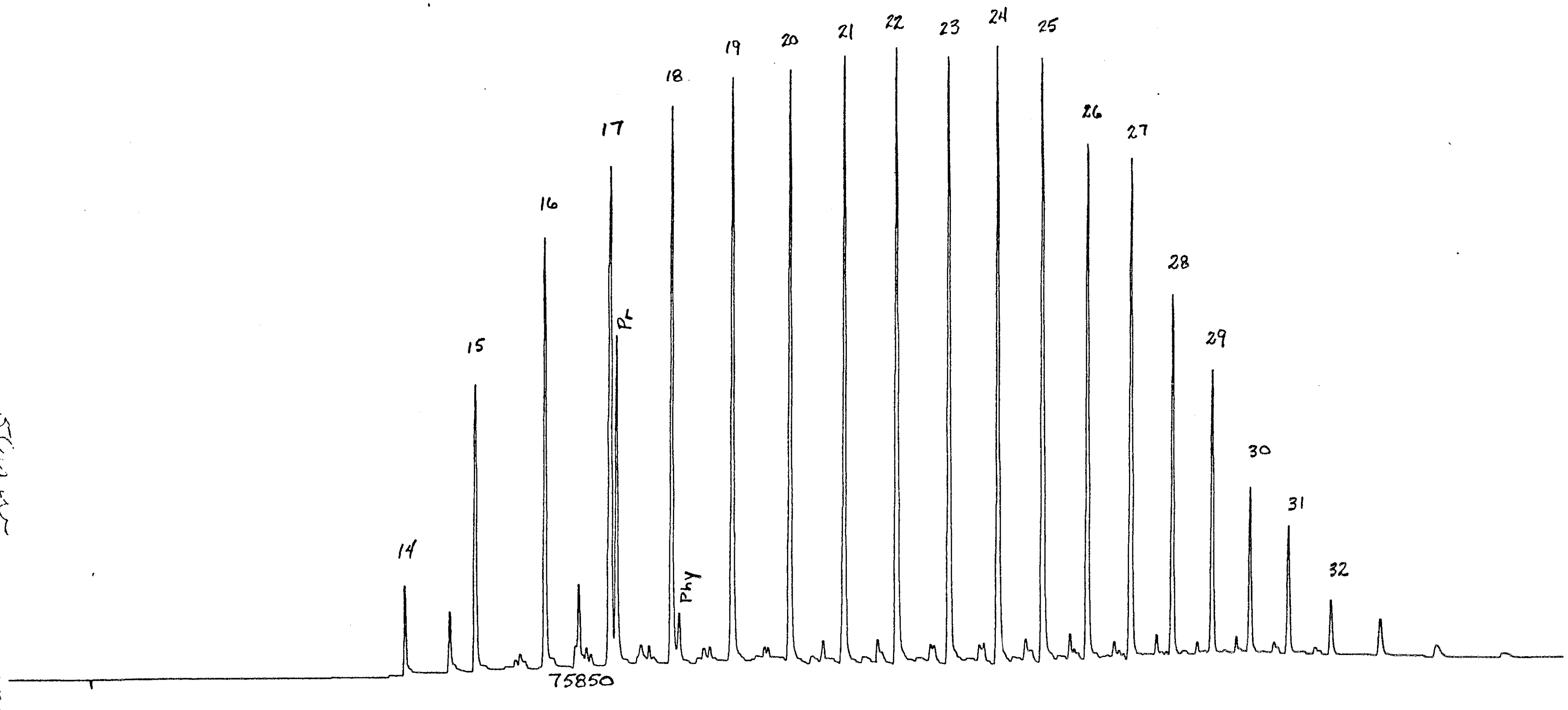


FIGURE 7 : YELLOWTAIL-2 CRUDE OIL, RFT 3, 2419m. , C_{15}+ GAS CHROMATOGRAPH.

APPENDIX - 1

VITRINITE REFLECTANCE DATA

APPENDIX-1 by A.C. Cook

YELLOWTAIL No.2

KK No.	Esso No.	Depth m	$\bar{R}_v$ max %	Range R_v max %	N	Exinite fluorescence (Remarks)
						LAKES ENTRANCE FORMATION
15921	BS/YT1	2355 SWC	?0.55		?1	Rare dinoflagellates, greenish yellow to yellow. (Claystone with d.o.m. rare, E>I>?V. Abundant framboidal pyrite and calcareous nannofossils present.)
15922	BS/YT2	2412 SWC	<0.94		-	Very rare yellow liptodetrinite. (Siltstone and claystone, d.o.m. rare, I>E. Carbonate abundant but pyrite rare.)
						LATROBE GROUP
15923	BS/YT3	2476 SWC	0.44	0.34-0.57	20	Sporinite common, cutinite sparse, greenish yellow to orange. (Sandstone>siltstone>claystone, d.o.m. common, V>E>I. Vitrinite common, inertinite rare. Pyrite abundant. Vitrinite phytoclasts small. D.o.m. more common in the finer lithologies.)

APPENDIX 6

APPENDIX 6

SYNTHETIC SEISMIC TRACE

APPENDIX 6

SYNTHETIC SEISMIC TRACE

The synthetic seismic trace was generated over the depth interval of 250m to 2560m subsea by convolving a second derivative gaussion function (zero phase) of 25 hz with the reflection coefficient series. The polarity convention used represents a positive reflection coefficient as a trough. No account is taken of transmission losses or multiple ray paths.

The reflection coefficient series was calculated from the acoustic impedence of 2m intervals. The sonic and density logs (where available) are thus blocked at 2m intervals. The density log was kept constant at 1.97 g/cc from 250m to 800m subsea. Editing was performed on the log from 2556m to 2560m where the sonic log was made constant at 255.5 us/m and the density log made constant at 2.34 g/cc.

PE601336

This is an enclosure indicator page.
The enclosure PE601336 is enclosed within the container PE902649 at this location in this document.

The enclosure PE601336 has the following characteristics:

ITEM_BARCODE =	PE601336
CONTAINER_BARCODE =	PE902649
NAME =	Velocity Check Shot Survey
BASIN =	GIPPSLAND
PERMIT =	VIC/L5
TYPE =	WELL
SUBTYPE =	SYNTH_SEISMOGRAM
DESCRIPTION =	Velocity Check Shot Survey/Synthetic Seismogram (enclosure from WCR vol.2) for Yellowtail-2
REMARKS =	
DATE_CREATED =	9/05/83
DATE_RECEIVED =	10/06/83
W_NO =	W779
WELL_NAME =	Yellowtail-2
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

ENCLOSURES

PE601337

This is an enclosure indicator page.
The enclosure PE601337 is enclosed within the container PE902649 at this location in this document.

The enclosure PE601337 has the following characteristics:

ITEM_BARCODE =	PE601337
CONTAINER_BARCODE =	PE902649
NAME =	Well Completion log
BASIN =	GIPPSLAND
PERMIT =	VIC/L5
TYPE =	WELL
SUBTYPE =	COMPLETION_LOG
DESCRIPTION =	Well Completion log (enclosure from WCR vol.2) for Yellowtail-2
REMARKS =	
DATE_CREATED =	10/07/82
DATE_RECEIVED =	10/06/83
W_NO =	W779
WELL_NAME =	Yellowtail-2
CONTRACTOR =	ESSO
CLIENT_OP_CO =	ESSO EXPLORATION AND PRODUCTION AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE902650

This is an enclosure indicator page.
The enclosure PE902650 is enclosed within the container PE902649 at this location in this document.

The enclosure PE902650 has the following characteristics:

ITEM_BARCODE = PE902650
CONTAINER_BARCODE = PE902649
NAME = Geological Cross Section A-A
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = CROSS_SECTION
DESCRIPTION = Geological Cross Section A-A (enclosure from WCR vol.2) for Yellowtail-2
REMARKS =
DATE_CREATED = 30/11/82
DATE_RECEIVED = 10/06/83
W_NO = W779
WELL_NAME = Yellowtail-2
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO EXPLORATION AND PRODUCTION AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE905607

This is an enclosure indicator page.
The enclosure PE905607 is enclosed within the container PE902649 at this location in this document.

The enclosure PE905607 has the following characteristics:

ITEM_BARCODE =	PE905607
CONTAINER_BARCODE =	PE902649
NAME =	Structure map
BASIN =	GIPPSLAND
PERMIT =	VIC/L5
TYPE =	SEISMIC
SUBTYPE =	HRZN_CONTR_MAP
DESCRIPTION =	Depth Structure Map, Top of Latrobe (enclosure from WCR vol.2) for Yellowtail-2
REMARKS =	
DATE_CREATED =	30/09/81
DATE_RECEIVED =	15/10/81
W_NO =	W779
WELL_NAME =	YELLOWTAIL-2
CONTRACTOR =	
CLIENT_OP_CO =	ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.