DEPT. NAT. RES & ENV
[redacted]
PE906104

Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

WELL SUMMARY

GURNARD-1 (W559)

1 Folio No	2 Referred to	3 Date	4 Clearing Officer's Initials	1 Folio No.	2 Referred to	3 Date	4 Clearing Officer's Initials

FILE COVER INSTRUCTIONS FOR ACTION OFFICERS

(1) FOLIO NUMBERS: Each subject paper attached to a file is to be given a consecutive number by the attaching officer. Papers must not be removed from or attached to a file without approval.

(2) REFERRAL TO OTHER OFFICERS: When an Officer completes action on the file and further action is required by some other Officer, please initial Column (4) and on the next vacant line, enter the relevant folio number in Column (1), indicate to whom the file is to be forwarded in Column (2) and record the date in Column (3).

(3) BRING UP MARKINGS: When action on a file is required at a later date, the officer will initial Column (4) and, on the next vacant line, enter the relevant folio number in Column (1), then write "B/U" followed by the action officer's name in Column (2) and the date the file is required in Column (3).

(4) PUTAWAY MARKINGS: When ALL action on a file is completed the officer concerned will initial Column (4) and, on the next vacant line, write "P/A" in column (2).

REGISTRY MUST BE NOTIFIED OF ANY FILE MOVEMENTS BETWEEN OFFICERS

LOCATION

P&A SPUD 3-10-69 COMP 3-11-69 LONG 147° 58' 38"

GURNARD-1

ESSO VIC/P1 T.D. 9724' 559 W.D 228' R.T. GLOMAR III

IES	Run 1.	2"	2523 - 8249'	
	" 2.	2"	7950 - 9701.	Log transparencies + long J.
	" 1.	5 & 1"	2523 - 8249.	
	" 2.	5 & 2"	7950 - 9701.	
	" 1 & 2.	2"	2523 - 9701.	
	" 1 & 2.	5"	2523 - 9300.	End of log missing.
B.H.C.S/GR.	" 1.	500 GR 2523	- 8237.	SEPARATE LOGS 2" AND 5".
	" 2.	7970	- 9700.	" " 2" " 5".
	" 1 & 2	500 GR 2523	- 9700	" " 2" " 5".
FDC/GR.	" 1	2521	- 9698	" " 2+1C - 5"+1C
C.D.M.	" 1	2"	2506 - 9698.	DIFFERENT DISPLAYS OR COMPUTATIONS.
	" 1	2 & 5".	" - "	
	" 1.	5 & 2".	2523 - 9697	
	" 1	Radial.	2506 - 9698	

FIT RESULTS TESTS 1 & 2. NO LOG — FILMS DESTROYED DURING DEVELOPMENT.

CORE LAB MUDLOG. 600' - 9724'.

S.W.C DESCRIPTIONS. RUN 1 5000' - 8110'.

" " " 2 2600' - 9684'.

TIME DEPTH CURVE.

WELL SUMMARY.

LITHOLOGY. 600' - 9724' +1C.

+ BIOSTRATIGRAPHIC & LOGGING DIGITAL DATA PACKAGE N 1 by D. TAYLOR & M. A. MARTIN 1983 ?

? MICROPALAEONTOLOGY REPORT BY D. TAYLOR.

? PALYNOLOGY REPORT BY L.E. STOVER & A.P. PARTRIDGE.

" " " P.R. EVANS & L.E. STOVER.

NO CORES CUT.

? PALYNOLOGY REPORT REVISED BY A.D. PARTRIDGE missing!

GEODIP LOG. P.R. HIGH DENSITY DIPS. RUN 2. SCALE 1/48.

PAYNOLOGICAL SHEET BY W.K. HARRIS

Listings missing?

GURNARD-1 (W559)

Well Summary Report

Table of Contents

Enclosures

Mud Log (Grapholog)
Induction-Electrical Log
Compensated Sonic Log
Compensated Formation Density Log
Continuous Dipmeter
Time-Depth Curve
Well completion Log

WEEKLY REPORTS

AND LITHOLOGY.

HEMATITE PETROLEUM PROPRIETARY LIMITED

WEEKLY DRILLING REPORT

Tenement Number:	Vic.P/1
Operator:	Esso Standard Oil (Aust.) Ltd.
Drilling Unit:	Glomar III
Well:	Gurnard 1.
Date of Report:	10th November, 1969.
Location:	Latitude: 38° 35' 33" South 147° 58' 38" East
Water Depth:	228 feet
Progress:	Total Depth 9724 feet Previous 9724 feet Progress 0 feet
Operations:	"Glomar III" picked up anchors, and abandoned the site at 1200 hours on 3rd November, 1969.

W.M. Lonie,
General Manager.

MES:YEF-H
10th November, 1969.

3-11-69.

Testing:

F.I.T. No.1 9660 feet (2949.3) - recovered 50 ccs. mud filtrate and 8% formation water plus trace dull, green fluorescence (? contamination)

F.I.T. No.2 9596 feet (2924.8) - recovered 350 ccs. mud filtrate and 8% formation water in sample chamber and 520 ccs. filtrate plus 12% formation water in segregator with trace pale, yellow fluorescence and fair hydrocarbon odour.

Both levels thought to be tight.

W.M. Lonie.

W.M. Lonie
General Manager

MES:YEF
Melbourne
6th November, 1969.

3-11-69

Gas Readings:

Interval (ft.)	Hot Wire Cuttings	Drilling Mud Gas Chromatograph				
		Hot Wire	CO_2	C_1	C_2	C_3
9620-9724	1-15	2-14	Trace	350-2600	Trace - 300	Trace - 200

Lithology:

Interval (ft.)	Drilling Rate (mins/ft)	
9620-9654	3.5 - 7.0	80% Siltstone, light grey, calcareous, sparsely glauconitic, and mid brown, non-calcareous, micritic, abundant carbonaceous material. 10% Sandstone, fine to medium grained, occasional aggregrates of fine-grained sandstone with weak, pale yellow fluorescence and weak yellow cut. 10% Coal.
9654 - 9724		100% Siltstone, as above, with traces of Coal and Sandstone.

Logging:

Log	Interval (ft.)
IES	7932 - 7923
IES	7950 - 9701
FDC-GR	2521 - 9698
Sonic SP	7970 - 9700
CDM-HDT	2523 - 9667

A total of 30 S.W.C.'s were shot, of which 27 were recovered from the interval of 2600-9684 feet.

HEMATITE PETROLEUM PROPRIETARY LIMITED

WEEKLY DRILLING REPORT

Tenement Number: Vic P/1.

Operator: Esso Standard Oil (Aust.) Ltd.

Drilling Unit: Glomar III.

Well: Gurnard 1. KB = 9.75M

Date of Report: 3rd November, 1969.

Location: Latitude : 38° 35' 33" South
Longitude : 147° 58' 38" East.

Water Depth: 228 feet.

Progress:

Total Depth	: 9724	feet
Previous	: 9654	feet
Progress	: 70	feet

Operations: After waiting on weather, at a depth of 9654 feet, drilling continued to a T.D. of 9724 feet. Two formation interval tests were run at 9596 and 9660 feet; recoveries were mainly mud filtrate with some formation water, which showed traces of fluorescence.

On completion of the electric logging programme, cement plugs were run and "Glomar III" is currently waiting on weather, before abandoning the site, and moving to the Tailor 1 location.

Cement Plugging:

Number	Interval (ft.)	Cement (sacks)
1	9470-9700	160 - with 2% $Cacl_2$. Top tagged at 9470 feet
2	2323-2633	3000 with 2% $Cacl_2$. Top tagged at 2299 feet
3	440-555	110

27-10-69

Lithology (conit)

Interval (ft)	Drilling Rate (ms/ft.)	
9470-9520	1.1-2.4	Sandstone, light grey-white, finely grained, well sorted, with abundant clay matrix, trace carbonaceous material, poor porosity. Interbedded Siltstone and Coal, as above.
9520-9560	1.3-3.2	Sandstone, unconsolidated medium to coarse grained, with minor Siltstone.
9560-9640	2.0-6.0	Mainly Coal with interbedded Siltstone and minor finely grained Sandstone, as before.

W.M. Lonie
General Manager

MES:JS
Melbourne
29th October, 1969.

Lithology (conit.) 27-10-69

Interval (ft)	Drilling Rate (ms/ft.)	
8270-8540	1.0-4.8	Interbedded Siltstone, Coal and Sandstone, fine grained, moderately hard to friable, quartzose, slightly pyritic and carbonaceous, trace medium to coarse grained well rounded sandstone.
8540-8640	2.0	Sandstone, mainly medium to coarse grained, quartz, well rounded, unconsolidated, with poor sorting; and minor fine grained, well-sorted, sub rounded, moderately firm, pyritic, occasional carbonaceous material and some siltstone.
8640-8650	2.8	Coal, black, vitreous, Shale, pyritic, dark brown, silty, finely laminated.
8650-8740	1.7	Sandstone, as before, interbedded with carbonaceous Siltstone and minor Coal.
8740-8750	3.5	Coal, as above.
8750-8800	2.2	Sandstone with minor Shale and coal.
8800-8920	1.9	Coal with interbedded Sandstone and minor carbonaceous Siltstone.
8920-8980	1.0-2.2	Sandstone with carbonaceous siltstone and minor coal.
8980-9070	1.0-3.0	Sandstone, fine grained, sub-angular to sub-rounded, moderately well sorted, trace lithics and pyrite with spotty blue fluorescence and cut between 9050-70 ft; interbedded with Siltstone and coal, as above.
9070-9220	1.4-3.4	Sandstone, coarse grained, unconsolidated, sub angular to sub rounded, well sorted.
9220-9470	1.1-4.3	Sandstone, unconsolidated coarse to very coarse grained, with interbedded carbonaceous Siltstone and Coal.

HEMATITE PETROLEUM PROPRIETARY LIMITED

WEEKLY DRILLING REPORT

Tenement Number: Vic P/1.

Operator: Esso Standard Oil (Aust.) Ltd.

Drilling Unit: Glomar III.

Well: Gurnard 1.

Date of Report: 27th October, 1969.

Location: Latitude : 38° 35' 33" South
Longitude : 147° 58' 38" East.

Water Depth: 228 feet.

Progress: Current : 9654 feet
Previous 8081 feet
Progress 1573 feet

Operations: Drilling continued to 8278 feet at which depth electric logging (IES and GR Sonic) and a velocity survey were carried out. Routine drilling has continued to the present depth; samples were circulated out at 8980, 9073, 9117, 9135, 9158 and 9209 to evaluate sand sections for reservoir characteristics and hydrocarbons. Glomar III is now preparing to resume drilling following weather delay at 18 hours.

Interval (ft)	Hot Wire Cuttings	Drilling Mud				
		Hot Wire		Gas Chromatograph		
			C02	C1	C2	C3
2520.6 – 2602.9 8270-8540	0-2	1-5	-	180-950	0-150	0-75
2602.9 – 2718.8 8540-8920	0-12	2-6	-	90-1070	0-160	0-90
8920-9110	0.5-14	2-7	-	360-1250	-	-
9110-9200	0	1-3	-	150-550	-	-
2804.16 – 2859.02 9200-9380	0-3	2-7	-	350-1960	25-260	tr-100
2859.02 – 2932.17 9380-9620	0-7	4-17	-	600-4200	50-800	25-400

Lithology:

Interval (ft)	Drilling Rate (ms/ft)	
8030-8270	0.7-2.2	Interbedded Siltstone and Coal with minor Sandstone, white to light grey, fine to medium grained,

Interval (ft)	Drilling Rate (mins/ft)	
7170-7265	1.2-4.2	Sandstone, fine grained, glauconitic, argillaceous, silty & grading to Siltstone sandy.
7265-7620	0.7-4.1	Sand, medium grained to granular, sub angular to rounded, unconsolidated, glauconitic, pyritic, no fluorescence or cut; interbedded with Siltstone, light to dark brown, firm to hard, non-calcareous, carbonaceous and Coal, black, brittle, conchoidal fracture.
7620-7690	1.8-2.4	Sand, unconsolidated, medium to coarse grained, as above.
7690-7860	0.8-6.6	Interbedded Coal and siltstone/ minor sand siltstone, light to dark brown, argillaceous, very carbonaceous, mass ? Coal, very silty in places.
7860-8030	0.7-3.0	Interbedded coal and siltstone as above, very minor sandstone, white to light grey, fine to medium.

Yours faithfully,

W.M. Lonie
General Manager

MES:JS
Melbourne
22nd October, 1969.

20-10-69

Lithology:

Interval (ft)	Drilling Rate (mins/ft.)	
3860-4000 1176 - 1219	0.8	Marl, light to medium grey, soft to firm, glauconitic.
4000-4410 1349.1	0.5-1	Limestone, buff, micritic skeletal hard with distinctive forams, glauconite, and disseminated quartz grains.
4410-4510 1374.6	0.4-0.9	50% Marl, as above. 50% Calcarenite, soft to firm, fossiliferous, with 50% dispersed quartz and glauconite.
4510-4680 1426.4	0.3-0.5	100% Marl, as above.
4680-4800 1463	0.2-0.4	70% Mudstone, grey green, silty in part, very glauconitic, fossiliferous and pyritic, very calcareous. 20% Sand, medium to coarse grained, well rounded, with pyrite & glauconite, coatings on grains. 10% Marl, as above.
4800-4950 1508.7	0.3	80% Mudstone, as above. 20% Marl
4950-5700	0.4-0.7	Calcarenite, Mudstone, as above
5700-6000 1828.8	0.3-0.8	Calcarenite, Mudstone to calcareous, Siltstone, light grey, brown glauconitic, pyritic, argillaceous.
6000-6390	0.4-0.9	Calcarenite, Siltstone, as above.
6390-6800 2072.6	0.2-1.3	Siltstone, calcareous, as above.
6800-7046	2.0-4.0	Calcarenite., & Siltstone, as above; becoming very finely sandy.
7046-7170 2185.4	3.5-4.9	Calcarenite, & Siltstone, light grey, brown, locally pyritic & glauconitic, abnormal forams, soft to firm.

HEMATITE PETROLEUM PROPRIETARY LIMITED

WEEKLY DRILLING REPORT

Tenement Number: Vic P/1

Operator: Esso Standard Oil (Aust.) Ltd.

Drilling Unit: Glomar III

Well: Gurnard 1

Date of Report: 20th October, 1969.

Location: Latitude : 38° 35' 33" South
Longitude : 147° 58' 38" East

Water Depth: 228 feet

Progress: Current 8081 feet
Previous 4010 feet
Progress 4071 feet

Operations: Following successful completion of fishing operations drilling has continued to 8081 feet without major operational delay, and without encountering any significant hydrocarbon shows. No coring or electric logging was done during the week and present operations are drilling ahead in the Latrobe Delta Complex.

Interval (ft)	Hot Wire Cuttings	Drilling Mud: Hot Wire	CO2	Gas Chromatograph: C1	C2	C3
3860-4430	-	9-25	-	800-2800	-	-
4430-4510	-	7-10	-	700-900	-	-
13746 - 1608.7 4510-4950	-	10-26	-	1100-2400	-	-
4950-6390	-	2-6	-	350-1250	-	-
6390-7046	0-1	1-4	-	100-800	-	-
7046-7150	0-1	0.5-5	-	50-890	-	-
7150-7265	0-1	2-7	-	270-700	-	-
2214.3 - 2322.5 ~~7265-7620~~	0-1	1-8	-	50-2600	0-1800	-
7620-7690	0	1-2	-	80-250	-	-
2343.9 - 2395.7 7690-7860	0-5	0.5-15	-	50-2500	0-600	0-90
7860-8030	0-1	0.5-2	-	50-400	0-50	trace

13/10/69

Interval (ft)	Drilling Rate (mins/ft)	
1290 - 1350	0.2 - 0.3	Calcarenite a/a.
1350 - 1470	0.3	No returns (Slip joint leak).
1470 - 2040	0.2 - 0.8	Calcarenite a/a.
2040 - 2280	0.3 - 0.6	No returns (Mud circ. leak).
2280 - 2550	0.4 - 1.0	Marl, mid grey, sparsely foss., trace fine grained qtz., soft.
2550 - 3220	0.4 - 0.8	Marl, lt - mid grey, sl. glauc., foss., soft.
3220 - 3860	0.4 - 1.0	Marl, mid grey, grn., glauc., foss., soft.

Drill cuttings below 3860 feet were left in the hole following twistoff of drill string.

W.M. Lonie
General Manager

MES:JS
Melbourne
13th October, 1969.

HEMATITE PETROLEUM PROPRIETARY LIMITED

WEEKLY DRILLING REPORT

Tenement Number: Vic P/1

Operator: Esso Standard Oil (Aust.) Ltd.

Drilling Unit: Glomar III

Well: Gurnard 1

Date of Report: 13th October, 1969.

Location: Latitude: 38° 35' 33" South
Longitude: 147° 58' 38" East

Water Depth: 228 feet

Progress: Current 4010 feet
Previous 994 feet
Progress 3016 feet

Operations: Drilling continued until 2550 feet at which depth a 13 3/8 inch casing string was run and cemented at 2523 feet with 1650 sacks of Australian cement. Drilling of 12¼ inch diameter hole has proceeded to 4010 feet without encountering any significant hydrocarbon indications. Fishing is now in progress, following twistoff at a bumper sub.

Gas Readings

Interval (ft)	Cuttings	Hot Wire	C02	Gas Chromatograph C1	C2	C3
600-1560	Insignificant					
1560-2550	0	5-36	Trace	360-1250	50-600	-
2550-3220	0	25-30	Trace	260-650	-	-
3220-3340	0	14-36	Trace	360-650	-	-
3340-3550	0	24-54	Trace	2050-4820	-	-
3550-3860	0	9-24	Trace	800-1430		

Lithology:

Interval (ft)	Drilling Rate (mins/ft)	
600 - 1250	0.2 - 0.4	Calcarenite, lt. - mid grey, unconsol., marly, ab. bryozoal. & pelycypods frags.
1250 - 1290	0.3	Coquina, lt. grey, crse, bryozoal.

HEMATITE PETROLEUM PROPRIETARY LIMITED

WEEKLY DRILLING REPORT

Tenement Number:	Vic P/1
Operator:	Esso Standard Oil (Aust.) Ltd.
Well:	Gurnard 1
Date of Report:	6th October, 1969
Drilling Unit:	Glomar 111
Location:	Latitude 38° 35' 33" South Longitude 147° 58' 38" East
Water Depth:	228 feet
Progress:	Current 994 feet Previous 0 feet Progress 994 feet
Operations:	Glomar 111 arrived on location at 1600 hours on 2nd October, 1969, and is now drilling at 994 feet. A combined 20" and 30" casing string was set at 602 feet with 1000 sacks of cement.

W.M. Lonie
General Manager

MES:JS
6.10.69

PALYNOLOGY

&

PALAEONTOLOGY

BIOSTRATIGRAPHIC & PALEOENVIRONMENTAL DATA PACKAGE # 1 for GIPPSLAND BASIN.

GURNARD-1

for: AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

July 20, 1983.

David Taylor
23 Ballast Point Road,
BIRCHGROVE, 2041.
AUSTRALIA. (02)810 5643.

and

Helene A Martin,
School of Botany,
University of New South Wales,
Box 1 P.O., KENSINGTON, 2033.
AUSTRALIA. (02)662 2954

INTRODUCTION.

This data package details available data on thirteen (13) Gippsland Basin, offshore wells. Additional palynological and foraminiferal studies were conducted on rotary cutting samples from four wells; namely Bullseye # 1, Moray # 1, Perch # 1 and Pike # 1. Micro-floral and micro-faunal lists are included for all samples examined specifically for this project.

An explanatory report is submitted, seperately, by Helene Martin on her palynological results, summarised here. David Taylor will contribute further discussion when requested.

INDEX of WELL DATA - PACKAGE # 1.

* refer GROPER # 2 sheet (page 8) for Schematic Model of Transgressive Onlap on Western Margin.

¶ Unable to interpret BREAM # 3 because infrequent sidewall cores were penetrated by drilling mud - thus contaminated.

BLUE BONE # 1

Sample Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc.*
342.21	*F (forams)*	EARLY MIOCENE		
---------- ?	---------- ?	---------- ?	---------- ?	---------- ? ---------- ? ---------- ?
359.9 to 431.8	Non diagnostic			strand line calcarenites
---------- ?	---------- ?	---------- ?	---------- ?	---------- ? ---------- ? ---------- ?
478.25 & 510.8 to 512.0 (CC) & 516.8	*K (forams) or Pre K*	LATE EOCENE	*? TURRUM FORMATION*	qtz glauconitic mudstone

REFER GROPER # 2 sheet for Schematic Model of Transgressive Onlap on Western Margin.

*Sidewall cores unless suffix (CC), indicating conventional core.

FOSSIL TYPE (forams)= planktonic foraminifera

----- ? ----- inadequate information

Data source: Taylor files

Interpreted by: David Taylor, July, 1983.

BREAM # 4A

(Bream # 3 had heavy mudcake penetration of SWC. Unable to interpret).

Sample Depth m	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*Lithology etc.*
1826 to 1836	*H-1 (forams)*	EARLY MIOCENE	*TASMAN SEA CARBONATES*	biogenic micrites with oozes
1839 to 1847.3	*H-2 (forams)*	LATE		
1850.5 to 1854.5	*I-1 (forams)*	OLIGOCENE		
1857.0 to 1859.0	*J-2 (forams)*	EARLIEST OLIGOCENE	*LAKES ENTRANCE MARLS Deep water equivalents.*	qtz sandy micrite extreme diagenetic alteration.
1860.0 to 1861.9	*K (forams)*	LATEST EOCENE	*COLQUHOUN FORMATION littoral-intertidal*	"greensand"
1865.5¶ to 1869.0	*N (forams)*	MID EOCENE	*GURNARD FORMATION*	"greensand" oxidised at top¶
1872.0 to 1875.5	*? (forams)*	MID EOCENE	*ibid*	ibid
1885.0				

¶ oxidised "greensand" at 1865.5 contained mixed zone N/K assemblages, indicating exposed surface.

------ apparent conformable contact

∿∿∿∿ definite hiatus

FOSSIL TYPE (forams) = planktonic foraminifera

Data source: Taylor files

Interpreted by: David Taylor, July 1983.

BULLSEYE # 1

Sample Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc*
1891.0 1906.2 1921.5 1936.8	*H (forams)*	EARLY MIOCENE	*GIPPSLAND LST shallow shelf*	bryozoal calcarenite
1952.0 1967.3 1982.5 1997.7	*I (forams)*	LATE OLIGOCENE	*LAKES ENTRANCE MARLS shallow shelf*	calcareous siltsts with qtz, glauc & pyrite
2013.0 2028.0 2043.5		MID OLIGOCENE	*Littoral at base*	
2055.7	*J-1 (forams)*		*COLQUHOUN FORMATION lagoonal*	silty "greensand"
2080.0 2092.3 2104.5 2119.8	*K (forams) or Pre K*	LATE EOCENE	*?TURRUM FORMATION Lagoonal*	calcareous, glauconitic, claystone
2241.7 to 2266.15(RC)	*Basal N. asperus- P.asperopolus (S/P)*	MID-EARLY MIOCENE	*? non-marine*	
2302.75 to 2327.15(RC)	*M. diversus*	EARLY EOCENE	*marginal marine*	

~~~~ ? ~~~~ possible hiatus

---------- apparent conformable contact

FOSSIL TYPE (foram) = *planktonic foraminifera*

(S/P) = *spore/pollen*

(dino) = *dinoflagellate*

*sidewall cores unless suffix (RC), indicating rotary cuttings.

Data source: Taylor files.

Interpreted by: *David Taylor*
July, 1983.
~~~~

CUTTINGS Depth in feet	7350-60	7430-40	7550-60	7580-90	7630-40	SPORE POLLEN ZONE	AGE
SPORES						Basal *N.asperus-P.asperopolus*	Early-Mid Eocene
Cyathea paleospora 2				+	+		
Cyathidites australis 1				+			
C. minor 4					+ +		
Dictyophyllidites concavus 8			+				
Gleicheniidites cf *G.circinidites* 1				+			
Laevigatosporites ovatus 1							
GYMNOSPERM POLLEN							
Araucariacites australis 1			+ +	+	+		
Lygistepollenites florinii 3	+		+		+		
Phyllocladidites mawsonii 3	+	+					
Podocarpidites spp. 1	+		+		+		
Podosporites microsaccatus 1							
ANGIOSPERM POLLEN							
Australopollis obscurus 3				+			
Banksieaeidites elongatus 3			+				
Dilwynites granulatus 3	+						
Ericipites crassiexinus 3				+ + +			
Haloragacidites harrisii 3	+				+		
Malvacipollis diversus 3							
Myrtaceidites parvus 2			+ +	+ +	+ +		
Nothofagidites emarcidus 3			+ +	+			
N. endurus 3			+				
N. falcatus 3			+				
N. flemingii 3			+				
N. geniatus 3			+				
N. vansteenisii 3			+				
Periporopollenites polycratus 3				+ +			
Proteacidites adenanthoides 3				+	+		
P. asperopolus 3	+			?	?		
P. grandis 3				+	+		
P. leightonii 3	+	+	+	+	+		
P. pachypolus 3	+			+			
Proteacidites spp. unidentified *tricolpate/tricolporate*		+	+	+	+		
Pollen abundance	÷	z	φ	φ	o		
Pollen preservation	z	z	o	o	o		
DINOFLAGELLATES							
Apectodinium homomorphum 5			+		+ +		
Cleistosphaeridium sp.			+				
Deflandrea-type sp.							
Glaphrocysta retiintexta 6				+			
Heterosphaeridium heteracanthum 5			+	+			
Impagidinium dispertitum 6					+ +		
Operculoclinium centrocarpum 5							
Operculodinium sp. 1			+				
Spiniferites ramosus 5			+				
No. of unidentified dinoflagellates			4				
Dinoflagellate abundance			o	÷	÷	*M.diversus*	Early Eocene
Dinoflagellate preservation			o	o	o		

SPORES, POLLEN and DINOFLAGELLATES IDENTIFIED IN BULLSEYE # 1.

Reference to Species:

1 Dettmann, 1963
2 Martin, 1973
3 Stover & Partridge, 1973
4 Couper, 1960
5 Lentin & Williams, 1977
6 Stover & Evitt, 1978
7 Deflandre & Cookson, 1955
8 Harris, 1965

Key to assessment of abundance and preservation:

φ good, above average
o average
÷ poor, below average
z very poor, trace occurrence

Helene A Martin, July 1983.

DOLPHIN # 1

Sample Depth m	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc.*
1079.7 (SWC)	*H (forams)*	EARLY MIOCENE	*GIPPSLAND LST shallow shelf*	bryozoal calc qtz sandy siltsts
1143.7 (SWC)	*I (forams)*	LATE OLIGOCENE	*LAKES ENTRANCE*	calcareous glauconitic mudstones etc
1195.6 (RC) to 1204.75 (RC)	*J-1 (forams)*	MID OLIGOCENE	*MARLS littoral*	
1220.0 (SWC)	*K (forams)*	LATE EOCENE	*COLQUHOUN FORMATION lagoonal*	"Greensand"
1222.7 (CC) to 1242.6 (CC)	NO DATA *(forams)*			

SWC = sidewall core
CC = conventional core
RC = rotary cutting

∿∿∿ definite hiatus

----- apparent conformable contact

FOSSIL TYPE (forams) = planktonic foraminifera
(dino) = dinoflagellates
(S/P) = spore/pollen

Data source: Taylor files

Interpreted by : David Taylor,
July, 1983.

GROPER # 1

Sample Depth m	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc*
851 (SWC) 854 (C.C.)	*H (forams)*	EARLY MIOCENE	*LAKES ENTRANCE*	bryozoal marl
862.3 (CC) to 902.8 (CC)	*I (forams)*	LATE OLIGOCENE	*MARLS shallow shelf*	calc. siltstone
905.8 (CC) to 9[redacted] (CC)	*J-1(forams)*	MID OLIGOCENE	*COLQUHOUN FM lagoonal & littoral*	glauconitic, calc, mudst.
919.6 (CC) to 922.3 (CC)	*K (forams) and/or Pre-K*	LATE EOCENE	*TURRUM FORMATION lagoonal/ estuarine*	glauconitic qtz sandy mudst
931.8 (CC) to 962.9 (CC)	*D.extensa* (dino) Mid *N.asperus* (S/P)	LATE EOCENE		
1011 (SWC)	lower *N.asperus* (S/P)	MID EOCENE	?	micaceous siltst

REFER GROPER # 2 sheet for Schematic Model of Transgressive Onlap on Western Margin.

S[redacted] = sidewall core
CC = conventional core

FOSSIL TYPE *(foram)* = *planktonic foraminifera*
(dino) = *dinoflagellates*
(S/P) = *spore/pollen*

~~~~ definite hiatus

----- apparent conformable contact

--?-- inadequate information

Data source: Taylor files

Interpreted by: *David Taylor*
~~~~

GROPER # 2

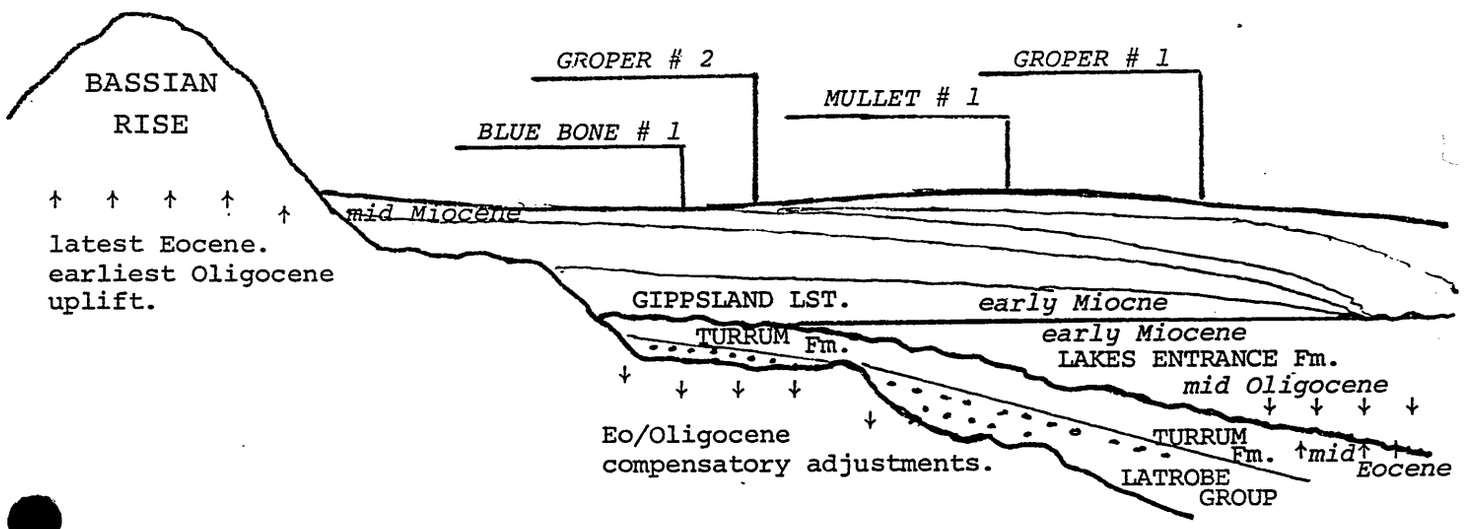
Sample Depth m	ZONE & fossil type	AGE	STRAT-UNIT & FACIES	LITHOLOGY etc.
750(CC)	*H-1 (forams)*	EARLY MIOCENE	*GIPPSLAND LST.*	bryozoal calcarenite
760.7(SWC)	?		? *TURRUM FORMATION*	glauconitic qtz
762.5(SWC)	litho-correlation only		*lagoonal/estuarine*	sandy mdst

CC = conventional core
SWC = sidewall core
∿∿ = definite hiatus

FOSSIL TYPE (forams) = planktonic foraminifera

Data Source: Taylor files

Interpreted by: David Taylor, July, 1983.



SCHEMATIC MODEL of TRANSGRESSIVE ONLAP after TECTONIC ADJUSTMENT on WESTERN MARGIN - GIPPSLAND BASIN.

David Taylor
July, 1983.

AAROUS AM 2...

GURNARD # 1

Sample Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc.*
2074.0	*H-1(forams)*	EARLY MIOCENE	*TASMAN SEA CARBONATES*	biogenic micrites with oozes at base
2104.5	*H-2(forams)*	LATEST OLIGOCENE		
2135.0	*I-1(forams)*			
2150.25	*J-2(forams)*	EARLY OLIGOCENE	*LAKES ENTRANCE MARLS - deep water equivalent*	calcareous claystones
2180.75				
? (RC)	*K (forams)*	LATE EOCENE	*COLQUHOUN FM. Littoral*	"greensand"
2196.0	*N (forams) N.asperus* (S/P)	MID EOCENE	*GURNARD FM. Estuarine*	"greensand"

* all depths cited were sidewall cores unless otherwise stated.

FOSSIL TYPE (forams) = planktonic foraminifera

(S/P) = spore/pollen

------ apparent conformable contact

∿∿∿∿ definite hiatus

Data source: Taylor files

Interpreted by: David Taylor, July 1983.

KINGFISH # 7

Sample Depth m	*Zone & fossil types*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc.*
2213.0 to 2237.5	*H-2 (forams)*	LATE OLIGOCENE	*TASMAN SEA CARBONATES & OOZES (continental rise)*	biomicrites
2243.7 to 2249.7	*I-1 (forams)*			
2252.7 to 2260.0	*J-2 (forams)*	EARLY OLIGOCENE	*LAKES ENTRANCE equivalent Deep water Continental slope*	calc siltst & micrites recrystallised at base
2261.6	*K (forams)*	LATE EOCENE	*COLQUHOUN FORMATION lagoonal/estuarine*	"greensand"
2263.1 2267.7 ?2280	*Pre K (forams)*	? LATE but probably MID EOCENE	*GURNARD FORMATION*	glauc & limonitic qtz sands

All samples were sidewall cores

FOSSIL TYPE (forams) = planktonic foraminifera
(S/P) = spore/pollen
(dino) = dinoflagellates

~? possible hiatus

definite hiatus

- - - - apparent comformable contact

Data source: Taylor files

Interpreted by: David Taylor
July 1983

MORAY # 1

E-log Pick m	*Sample* Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc*
	1616.5	*H-2(forams)*	LATEST OLIGOCENE	*TASMAN SEA CARBONATES*	biogenic micrite incl. globigerinid oozes
1625 ∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿
	1625.7 1634.8	*J-2(forams)*	EARLIEST OLIGOCENE	*LAKES ENTRANCE marls deep water equiv.*	calcareous siltst. & clayst.
1637 --------	--------	--------	--------	--------	--------
	1639.7 1641 (R.C.) 1649	*K(forams)*	LATE EOCENE	*COLQUHOUN FORMATION*	"greensand" & calc. siltst.
1650 ∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿
	1653 (R.C.) 1655 1656 (R.C.) 1671 (R.C.) 1679	*N(forams)* *Basal* *N.asperus-* *P.asperopolus*	MID/EARLY EOCENE	*GURNARD FORMATION*	oxidised glauc siltst & qtz sdst
1680 ---- ? ----	? ---- ? ----	? ---- ? ----	? ---- ? ----	? ---- ? ----	? ---- ? ---- ? ---
	1682	NO DATA			qtz sand body

*sidewall cores unless suffix (R.C.) indicating Rotary Cuttings.

∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿ definite hiatus

--------------------- apparent conformable contact

---- ? ---- ? ---- ? - inadequate information

FOSSIL TYPE (foram) = *planktonic foraminifera*

(S/P) = *spore/pollen*

(dino) = *dinoflagellate*

Data source: Taylor files plus additional palynology on cuttings by Helene Martin; micropaleontology on cuttings by David Taylor.

Interpretation by: *David Taylor*
July, 1983.

For additional sample results see attached sheets.

CUTTINGS Depth in feet	5420→	5430-40→	5480-90→
SPORES			
Cyathea paleospora 2	+		
Cyatheacidites annulatus 3	+	+ +	+ + + +
Cyathidites australis 1			+
Foveotriletes lacunosus 3		+ +	+
Gleicheniidites cf *G. circinidites* 1		+ + + +	+
Ischyosporites gremius 3			
Laevigatosporites ovatus 1	+	+ + +	
Polypodiidites sp.			
Stereisporites cf *S. antiquasporites* 1		+ +	+
GYMNOSPERM POLLEN			
Araucariacites australis 1	+	+	
Dacrycarpites australiensis 9			+
Lygistepollenites florinii 3	+		
Microcachryidites antarcticus 1		+	
Phyllocladidites mawsonii 3	+		
Podocarpidites sp. 1			+
ANGIOSPERM POLLEN			
Dilwynites granulatus 3	+		
Haloragacidites harrisii 3	+	+ +	
Malvacipollis diversus 3		+ +	
Nothofagidites emarcidus 3	+	+	+
N. falcata 3	+		+
N. flemingii 3			
Proteacidites asperopolus 3	+		
unidentified *tricolpate/tricolporates*	+	+	
Pollen abundance	÷	÷	÷
Pollen preservation	o	÷	÷
DINOFLAGELLATES			
Cleistosphaeridium sp.	+	+	+
Hystrichokolpoma cf *H. eisenackia* 5		+ +	
Hystrichosphaeridium cf *H. tubiferum* 5		+ +	+
Impagidinium dispertitum 6	+	+ +	+
I. victorianum 6	+	+	
Kisselovia sp. 5	+		
Leiosphaera scrobiculata 7	+	+	+
Menatosphaeropsis balcombiana 5			+
Operculodinium centrocarpum 5	+		+
Operculodinium sp.		+	+
Spiniferites ramosus 5	+	+	+
No. of unidentified dinoflagellates	3	3	4
Dinoflagellate abundance	ϕ	ϕ	ϕ
Dinoflagellate preservation	ϕ	ϕ	o
SPORE POLLEN ZONE	*P.asperopolus*	?	? *P.asperopolus*
AGE	EARLY-MID EOCENE	?	EARLY-MID EOCENE

SPORES, POLLEN AND DINOFLAGELLATES IDENTIFIED IN MORAY # 1.

Helene A Martin, July 1983.

ADDITIONAL FORAMINIFERAL DATA by DAVID TAYLOR (july, 1983)

BASIN GIPPSLAND	SECTION MORAY # 1	STATE VICTORIA
Depth: 5380-5400' (1641m) Sample: R.C. Zone: J-2 Lith: forams calc qtz sdst Other fauna: Count: % Planks: Environment: shallow shelf platform Comments: HEAVY CONTAMINATION also noted in SWC's at and below this level.	Planktonics: *G'ina angiporoides*(S.S.) *G'ina brevis* *G'ina tripartita* plus heavy downhole contamination. Dominance of:	Benthonics: Jan Juk fauna plus *Vulvulina granulosa* sp. *Ammosphaeroidina* *Haeuslerella* sp. Dominance of:

ADDITIONAL FORAMINIFERAL DATA by DAVID TAYLOR (July, 1983)

BASIN GIPPSLAND	SECTION MORAY # 1	STATE VICTORIA
Depth: 5480-90'(1671.4m) Sample: R.C. Zone: ZONE N - Mid Eocene Lith: lime m-c frosted and fractured qtz. A-pellet limonite after glauc. A pyrite. Other fauna: Count: % Planks: Environment: GURNARD FORMATION Comments: HEAVY CONTAMINATION	Planktonics: Orange Stained *G'ina linaperta* *G'ina primitiva* *G'ina angiporoides minima* plus heavy downhole contamination Dominance of:	Benthonics: heavy downhole contamination Dominance of:

MULLET # 1

Sample Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc*
426.7	*F*	EARLY MIOCENE		
---------- ?	---------- ?	---------- ?	---------- ?	---------- ? ----------
470.3 to 679.2	non diagnostic		*GIPPSLAND LIMESTONE strand line*	
---------- ?	---------- ?	---------- ?	---------- ?	---------- ? ---------- ?-
684.1 to 687.2	*J-1 (forams)*	MID OLIGOCENE	*COLQUHOUN FORMATION Lagoonal & littoral*	qlauconite, qtz, calc mdsts.
689.6 702.7 703.3	*K (forams) or Pre K*	LATE EOCENE	*? TURRUM FORMATION*	glauconitic qtz sdsts.

REFER GROPER # 2 sheet for Schematic Model of Transgressive Onlap on Western Margin.

FOSSIL TYPE (forams) = planktonic foraminifera

* all samples cited were sidewall cores.

----- ? ---- inadequate information

~~~~~~~~~~ definite hiatus

Data source: Taylor files

Interpreted by: David Taylor
July 1983.
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NANNYGAI # 1

Sample Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc.*
2079.0	*H-1*	EARLY MIOCENE	*TASMAN SEA CARBONATES*	biogenic micrites with oozes
2104.5	*H-2*	LATEST OLIGOCENE		
2135.0 & 2156.4	*I-1 (forams)*			
2162.5	*J-2 (forams)*	EARLIEST OLIGOCENE	*LAKES ENTRANCE MARLS. Deep water equivalents*	calcareous claystones
2192.9				
2199.0	*K (forams)*	LATE EOCENE	*COLQUHOUN FM. Littoral*	greensand
---------- ? ----------	? ----------	? ----------	? ----------	? ----------.? ----------
2205 to 2216.75	No paleo LITHO-ONLY	?	*? GURNARD FORMATION*	"oxidised greensand"

* All samples cited were sidewall cores

FOSSIL TYPE (forams) = planktonic foraminifera

------ apparent conformable contact

--?--- inadequate information

∿∿∿∿∿ definite hiatus

Data source: Taylor files

Interpreted by: David Taylor
July 1983

PERCH # 1

E-log Pick m	*Sample* Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY*
	1034	*H(forams)*	EARLY MIOCENE	*GIPPSLAND LST shallow shelf*	bryozoal calcarenite
	1095	*I(forams)*	LATE to MID OLIGOCENE	*LAKES ENTRANCE MARL shallow shelf*	qtz sandy excl. siltst.
	1128.5			*COLQUHOUN FORMATION Lagoonal/estuarine*	Greensand
	1131.5(R.C.) 1143.75 1161.43 1195.6 (R.C.)	*Pre K(forams)* *N.asperus (S/P)*	LATE to MID EOCENE	*?TURRUM FORMATION estuarine*	limonitic sdst.
	1372.5(R.C.) to 1381.6(R.C.)	*L. balmei (S/P)*	PALEOCENE	*non-marine*	

* Sidewall cores unless suffix (R.C.) indicating rotary cuttings.

~~~~~~~~~~ definite hiatus

---------- apparent conformable contact

----- ? ---- contact relationship not known

FOSSIL TYPE (foram) = planktonic foraminifera

(S/P) = spore/pollen

(dino) = dinoflagellates

Data source: Taylor files plus additional palynology on cuttings by Helene Martin. Micropaleontology on cuttings by David Taylor.

Interpreted by: *David Taylor*
July, 1983.

For additional sample results see attached sheets
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CUTTINGS Depth (ft)	SPORES *Cyathea paleospora* 2	*Cyathidites australis* 4	*Dictyophyllidites concavus* 8	*Gleichenidites* cf *G.circinidites* 1	*Laevigatosporites ovatus* 1	*Lycopodiumsporites* sp 1	*Stereisporites* cf *S.antiquasporites* 1	GYMNOSPERM POLLEN *Araucariacites australis* 1	*Lygistepollenites balmei* 3	*L. ellipticus* 3	*L. florinii* 3	*Microcachryidites antarcticus* 1	*Parvisaceites catastus* 3	*Phyllocladidites mawsonii* 3	*Podocarpidites* spp 1	*Podosporites microsaccatus* 1	ANGIOSPERM POLLEN *Dilwynites granulatus* 3	*Haloragacidites harrisii* 3	*Nothofagidites emarcidus* 3	*N. endurus* 3	*N. geniatus* 3	*N. vansteenisii*	*Periporopol polycratus*	*Proteacidites* spp.	Pollen abundance	Pollen preservation	DINOFLAGELLATES *Cleistosphaeridium* sp.	*Impagidinium dispertitum* 6	*Operculodinium centrocarpum* 5	*Spiniferites ramosus* 5	No. of unidentified dinoflagellates	Dinoflagellate abundance	Dinoflagellate preservation	SPORE-POLLEN ZONE	AGE
3700-10→	+		+								+				+				+	+				z	÷		+	+	+	+	2	z	÷	*N. asperus* *P. asperopolus*	Mid - Early Eocene
3910-20→	+	+	+		+			+													+		+		z	÷					1	z	÷		
4500-10→				+	+				+	+	+			+	+			+	+	+					ϕ	÷				+	+	1	÷	÷	*L. balmei*	Paleocene
4520-30→		+	+	+	+	+	+		+	+			+	+	+	+		+		+			+	+	ϕ	o									

SPORES, POLLEN AND DINOFLAGELLATES IDENTIFIED IN PERCH # 1.

Reference to species:
1 Dettmann, 1963
2 Martin, 1973
3 Stover & Partridge, 1973
4 Couper, 1960
5 Lentin & Williams, 1977
6 Stover & Evitt, 1972
8 Harris, 1965

Key to assessment of abundance and preservation:
ϕ good, above average
o average
÷ poor, below average
z exceedingly poor, trace occurrence

Helene A Martin, July 1983

ADDITIONAL FORAMINIFERAL DATA by DAVID TAYLOR (july, 1983)

BASIN GIPPSLAND	SECTION PERCH # 1	STATE VICTORIA
Depth: 3670-80(1119.4m) Sample: R.C. Zone: J-1(3) Lith: 40% f ang orange qtz sdst (slightly calc) 50% pellet glauc 10% c ang qtz Other fauna: A - bryo. Count: ? 1000 % Planks: ?30% Environment: shallow shelf Comments: COLQUHOUN FORMATION GREENSAND Member	Planktonics: *G'ina angiporoides* (S.S.) *G'ina tripartita* *G'ina euapertura* *G'ina praebulloides* *G'alia nana* *G'alia opima* *G'alia extans* *G'alia munda* plus downhole contamination Dominance of:	Benthonics: *Cib. novozealandica* *Cib. perforatus* *Gry. zealandica* *Gaud. convexa* *Quin. singletoni* plus typical JAN JUKIAN Assemblage Dominance of:

ADDITIONAL FORAMINIFERA DATA by DAVID TAYLOR (july, 1983)

BASINGIPPSLAND	SECTION PERCH # 1	STATE VICTORIA
Depth:3700-10(to 1131.5m) Sample: R.C. Zone: Late to Mid Eocene Lith: lim c-m ang qtz sdst py - A plus downhole contamination Other fauna: bryo - A Count: ? % Planks: ? Environment: shallow warm continual shelf platform - intertidal Comments: TURRUM FORMATION	Planktonics: ORANGE STAINED *G'ina linaperta* *G'ina angiporoides* (S.S.) *G'alia centralis* plus downhole contamination Dominance of:	Benthonics: Orange coated *Anom. aotea* *Amphistegina* sp. *Gyroid. zealandica* plus white specimens from further uphole Dominance of:

PIKE # 1

E-log Pick m	*Sample* Depth m*	*ZONE & fossil type*	*AGE*	*STRAT-UNIT & FACIES*	*LITHOLOGY etc.*
	1805.6	*H-1(forams)*	EARLY MIOCENE	*TASMAN SEA CARBONATES*	biogenic micrites & globigerinid ooze at base
1810	∿∿∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿∿∿	∿∿∿∿∿∿∿∿∿∿
	1810.5 1817.8 1828.8	*J-2(forams)*	EARLY OLIGOCENE	*LAKES ENTRANCE MARL deep water equiv.*	calcareous clayst. extreme diagen alteration
	----------	----------	----------	----------	----------
	1829.4	*K(forams)*	LATE EOCENE	*COLQUHOUN FORMATION lagoonal*	"greensand"
1830	---- ? ----	---- ? ----	---- ? ----	---- ? ----	---- ? ----
	1847.7	NO DATA			
1968	---- ? ----	---- ? ----	---- ? ----	---- ? ----	---- ? ----
	1988 to 2007 (RC)	*N(forams)Lower N.asperus (S/P)*	MID EOCENE	*GURNARD FORMATION - Intertidal*	limonitic qtz sands & silts. N.B. oxidised green sdst in SWC at 1969
--	---- ? ----	---- ? ----	---- ? ----	---- ? ----	
	2007 to 2031 (RC)	*P.asperopolus- M. diversus(S/P)*	MID-EARLY EOCENE	*non marine with marine ingression at 2025.*	

∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿∿ definite hiatus

-------------------- apparent conformable contact

---- ? ---- ? ---- ? inadequate information

FOSSIL TYPE *(foram)=planktonic foraminifera*

(S/P)=spore/pollen

(dino)=dinoflagellates

*sidewall cores unless suffix (R.C.) indicating Rotary Cuttings.

Data source: Taylor files plus additional palynology on cuttings by Helene Martin. Micropaleontology on cuttings by David Taylor.

Interpreted by: *David Taylor*
July, 1983.

For additional sample results see attached sheets.

CUTTINGS Depth (ft)	6540-60	6580-6600	6600-20	6620-40	6640-60
SPORES					
Baculatisporites comaumensis 1				+	
Cyathea paleospora 2		+	+	+	+
Cyatheacidites annulatus		+			
Cyathidites australis 4	+				
Gleicheniidites cf. *G.circinidites* 1	+	+			+
Ischyosporites gremius 3			+		
Laevigatosporites ovatus 1				+	+
Polypodiidites sp.		+			
Rugulatisporites micraulacus 3					
Stereisporites cf *S.antiquasporites* 1			+		
GYMNOSPERM POLLEN					
Araucariacites australis 1	+	+	+		
Lygistepollenites florinii 3	+	+	+		+
Microcachryidites antarcticus 1			+		
Phyllocladidites mawsonii 3	+				
Podocarpidites spp.	+		+	+	+
ANGIOSPERM POLLEN					
Dilwynites granulatus 3	+	+			
Haloragacidites harrisii 3	+		+	+	+
Myrtaceidites parvus 2	+		+		
M. mesonesus		+			
Nothofagidites emarcidus 3	+	+	+	C	C
N. flacatus 3	+				
N. geniatus 3	+				
N. vansteenisii 3	+				
Proteacidites adenanthoides 3	+				+
P. grandis 3					+
Proteacidites sp.		+			
Pollen abundance	÷	÷	÷	÷	÷
Pollen preservation	÷	÷	÷	z	z
DINOFLAGELLATES					
Cleistosphaeridium sp.	+				
Hystrichosphaeridium cf *H.tubiferum* 5			+		
Impagidinium dispertitum 6	+		+		+
I. victorianum 6			+		
Leiosphaera scrobiculata 7	+		+		
Linguldinium machaerophorum 5	+		+		
Muratodinium fimbriatum 5					+
Nematosphaeropsis balcombiana 5	+				
Operculodinium centrocarpum 5	+		+		C
Operculodinium sp.	+		+		C
Schematophora speciosa 5			?		
Spiniferites ramosus 5	+	+	+		C
No. of unidentified dinoflatellates	4	2	2		2
Dinoflagellate abundance	ϕ	ϕ	ϕ	o	o
Dinoflagellate preservation	o	o	o	z	z
SPORE POLLEN ZONE	*N.asperus*	*M.diversus* - *P. asper -opolus*			
AGE	Mid Eocene	Mid-Early Eocene			

C obvious carry down

SPORES, POLLEN AND DINOFLAGELLATES IDENTIFIED IN PIKE # 1.

Reference to species:

1 Dettmann, 1963
2 Martin, 1973
3 Stover & Partridge, 1973
4 Couper, 1960
5 Lentin & Williams, 1977
6 Stover & Evitt, 1978
7 Deflandre & Cookson, 1955

Key to assessment of abundance and preservation:

ϕ good, above average
o average
÷ poor, below average
z exceedingly poor, trace occurrence

Hel : A Martin, July 1983.

FORMATION INTERVAL TESTING

2 copies

559

BASIC

GURNARD-1 F.I.T.'s

Test # 1 9660'

1. Tool open to chamber 40 minutes @ estimated pressure of 4-500 psi.

2. After 40 minutes attempted to close off chamber and fill segregator. Charge caused loss of seal - POH.

3. Recovery - no sample pressure
approximately 50 cc fluid with dull green fluorescence probably due to contamination.

Test # 2 9596'

1. Tool open to chamber 50 minutes @ estimated pressure of 800 psi.

2. Tool open to segregator 25 minutes.

3. Tool shut-in 15 minutes.
a) after 5 minutes pressure build-up to estimated 4500 psi.

4. Recovery - no sample pressure
350 cc fluid from chamber
520 cc fluid from segregator.
a) sample from chamber had same dull green fluorescence as in Test # 1.
b) sample from segregator had pale yellow even fluorescence
c) both samples had definite hydrocarbon odour.
d) waring blender test results from segregator sample: 7000 ppm C_1
900 ppm C_2
200 ppm C_3

Films:

Both films destroyed during developing.

Resistivity calculations:

Rmf @ 60° F = 0.98 Rw @ 60° F = 0.3

Test # 1
R (sample) @ 60° F = 0.8

Test # 2
R (Segregator sample) @ 60° F = 0.77
R (chamber sample) @ 60° F = 0.8

ORGANIC ANALYSES REPORT

15 pages

GURNARD No.1

VITRINITE REFLECTANCE, DISPERSED ORGANIC MATTER DESCRIPTIONS AND TOTAL ORGANIC CARBON ANALYSES

Australian Aquitaine Petroleum Pty. Ltd

F3/422/0-3420/83 December 1982

The Australian
Mineral Development
Laboratories

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South Australia 5063
Phone Adelaide 79 1662
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Please address all
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In reply quote:

amdel

20 December 1982

F3/422/0
3420/83 - Final

Australian Aquitaine Petroleum Pty. Ltd.,
Elf Aquitaine Centre,
99 Mount Street,
NORTH SYDNEY NSW 2060

Attention: Dr F. Brophy

REPORT F3420/83 - Final

YOUR REFERENCE:	5471 KL:bf
MATERIAL:	Seven cutting samples
LOCALITY:	GURNARD No.1
IDENTIFICATION:	As marked
DATE RECEIVED:	9 December 1982
WORK REQUIRED:	Vitrinite reflectance, dispersed organic matter descriptions and total organic carbon analyses

Investigation and Report by: Brian Watson

Chief - Fuel Section: Dr Brian G. Steveson
Manager, Mineral and Materials Sciences Division: Dr William G. Spence

for Norton Jackson
Managing Director

cah

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1. INTRODUCTION

Seven cuttings samples from Gurnard No.1 were forwarded from Australian Aquitaine Petroleum Pty. Limited for organic analyses. This report contains vitrinite reflectance determinations, descriptions of dispersed organic matter and total organic carbon analyses.

2. EXPERIMENTAL METHODS

A representative portion of each sample was separated using a sample splitter and mounted in cold setting astic resin in a 2.5 cm round mold. This block was ground flat using diamond impregnated laps and carborundum papers. The surface was then polished with aluminium oxide and finally with magnesium oxide.

Reflectance measurements were taken using a Leitz MPV1.1 microphotometer fitted to a Leitz Ortholux microscope and calibrated against synthetic standards. All measurements were taken in oil immersion (n = 1.518) using incident monochromatic light with a wavelength of 546 nm at a temperature of 23±1°C. Fluorescence observations were made using the same microscope utilizing a 3 mm BG3 exitation filter, a TK400 Dichroic mirror and a K510 suppression filter. The mean maximum reflectance measurements taken on vitrinite are listed below.

3. REFLECTANCE MEASUREMENTS

Depth ft	Mean Maximum Reflectance (%)	Standard Deviation	Range	Number of Measurements
2240 – 2242 7350–7360	0.49	0.04	0.44–0.53	3
2353 2356 7720–7730	0.49	0.04	0.42–0.62	35
2535.9 – 2538.9 8320–8330	0.49	0.05	0.41–0.60	34
2670 – 2651.7 8760–8700	0.52	0.05	0.43–0.63	36
2758 2761 9050–9060	0.53	0.05	0.45–0.61	33
2918.9 – 2923 9580–9590	0.52	0.04	0.46–0.62	32
2959.6 – 2962.6 9710–9720	0.55	0.05	0.47–0.65	36

4. DISPERSED ORGANIC MATTER DESCRIPTIONS

Sample 1: Depth 7350-7360 ft

Organic matter is absent from the majority of these cuttings which consist of sandstone fragments. Siltstone occupies approximately 20-30% of the sample and generally contains rare dispersed organic matter. In this siltstone inertinite is much more abundant than vitrinite which is slightly more abundant than exinite. Organic matter is absent from approximately one-third of this siltstone.

Exinite is present in trace amounts in this sample. Cutinite (moderate yellow fluorescence) is the only exinite maceral present.

2350 2356

Sample 2: Depth 7720-7730 ft

This sample consists chiefly of siltstone. Organic matter is rare or absent from these grains but where present, inertinite is more abundant than vitrinite which is slightly more abundant than exinite. Coal grains occupy approximately 15-20% of the sample. The majority of these coals are duroclarites. However, vitrites occupy approximately 5% of the sample. Carbonaceous shale grains also occupy approximately 5% of the sample and contain abundant organic matter. In these shales vitrinite is more abundant than exinite which is more abundant than inertinite.

Exinite is common in this sample and is present in the coals, carbonaceous shale and siltstone. The exinite macerals present in order of abundance are resinite (bright yellow to bright yellow-green and moderate orange fluorescence), sporinite (bright yellow and moderate yellow fluorescence), cutinite (moderate to dull orange fluorescence), liptodetrinite (moderate orange fluorescence), telalginite (bright yellow-green to bright yellow fluorescence) and suberinite (moderate to dull orange fluorescence). Resinite is common in these cuttings. Sporinite and cutinite are sparse and are slightly more abundant than liptodetrinite. Telalginite and suberinite are rare in the cuttings.

Sample 3: Depth 8320-8330 ft

The majority of these cuttings are coal grains. These coals are largely duroclarites. However, a few clarodurite grains are also present. Siltstone grains occupy 20-30% of the sample. Organic matter is rare or absent from these grains. Carbonaceous shale grains occupy 10-15% of the sample and contain abundant organic matter. In these grains vitrinite is more abundant than exinite which is slightly more abundant than inertinite. Organic matter is absent from sandstone grains which occupy 5-10% of the sample.

Exinite is sparse in this sample and is present mostly in the coal and carbonaceous shales. The exinite macerals present in order of abundance are resinite (bright green to bright yellow and bright orange fluorescence), sporinite (moderate yellow to moderate orange fluorescence), cutinite (moderate yellow to moderate orange fluorescence), liptodetrinite (moderate yellow to moderate orange fluorescence), suberinite (no fluorescence) and ?dinoflagellate/acritarchs (bright yellow fluorescence). Resinite and sporinite are sparse in this sample whereas cutinite and liptodetrinite are rare. Suberinite is very rare and ?dinoflagellate/acritarchs are present in trace amounts.

Sample 4: Depth 8760-8700 ft

This sample consists chiefly of siltstone. Organic matter is rare or absent from these grains and where present consists largely of inertinite. Carbonaceous shale grains occupy approximately 10-15% of the sample. In these grains vitrinite is more abundant than inertinite which is more abundant than exinite. Coal grains occupy 5-10% of the sample and consists entirely of duroclarites.

Exinite is sparse in this sample but is common in the coals. The exinite macerals present in order of abundance are resinite (bright yellow to bright orange and moderate yellow fluorescence), sporinite (bright yellow and moderate yellow to moderate orange fluorescence), cutinite (bright yellow and moderate yellow to moderate orange fluorescence) and suberinite (dull orange fluorescence and no fluorescence). Resinite and sporinite are sparse in the sample whereas cutinite and suberinite are rare.

Sample 5: Depth 9050-9060 ft

The majority of these cuttings again consist of siltstone. Organic matter is rare in this siltstone and inertinite is more abundant than vitrinite which is more abundant than exinite. Coal grains occupy approximately 40-50% of the sample and consist entirely of duroclarites. Carbonaceous shale grains occupy 10-15% of the sample volume and contain abundant organic matter. In these grains vitrinite is more abundant than inertinite which is slightly more abundant than exinite.

Exinite is sparse in this sample and is common to abundant in the duroclarites. The exinite macerals present in order of abundance are sporinite (moderate yellow fluorescence), cutinite (moderate yellow fluorescence), resinite (bright yellow and moderate orange fluorescence), suberinite (dull orange fluorescence and no fluorescence), bitumen (moderate to dull orange fluorescence) and fluorinite (bright green and bright yellow fluorescence). Sporinite is sparse in the sample whereas cutinite, resinite, suberinite and bitumen are rare. Fluorinite is very rare in this sample.

Sample 6: Depth 9580-9590 ft

The majority of these cuttings are carbonaceous shales and contain abundant organic matter. In these carbonaceous shales vitrinite is more abundant than exinite which is more abundant than inertinite. Siltstone grains occupy 30-40% of the sample. Organic matter is rare or absent from these grains and where present consist almost entirely of inertinite. Coal grains occupy approximately 10-20% of this sample and again consist largely of duroclarites. However, a few clarodurite grains are present in this sample.

Exinite is sparse to common in these cuttings and is abundant in the coals and carbonaceous shales. The exinite macerals present in order of abundance are sporinite (moderate yellow to moderate orange fluorescence), resinite (bright yellow fluorescence), bitumen (moderate yellow and dull orange to dull brown fluorescence), liptodetrinite (moderate yellow to moderate orange fluorescence), cutinite (moderate orange fluorescence) and suberinite (dull orange fluorescence and no fluorescence). Sporinite, resinite and bitumen are sparse in the sample and are slightly more abundant than liptodetrinite. Cutinite is rare and suberinite is present in trace amounts.

Sample 7: Depth 9710-9720 ft

The majority of these cuttings consist of siltstone. Organic matter is generally rare or absent from this siltstone. Where organic matter is rare in the siltstones it consists almost entirely of inertinite. Organic matter is abundant in approximately 10-20% of these siltstone. In these grains inertinite is more abundant than vitrinite which is slightly more abundant than exinite. Carbonaceous shale grains occupy approximately 10-15% of the sample and again contain abundant organic matter. In these grains vitrinite is more abundant than exinite which is slightly more abundant than inertinite. Coal grains occupy 5-10% of the sample and consist largely of duroclarites. However, a few microite grains are also present in this sample. The inertinite in these grains is only slightly higher reflecting than the vitrinite in the duroclarite grains.

Exinite is sparse to common in this sample and is again abundant in the duroclarite and carbonaceous shale grains. The exinite macerals present in order of abundance are sporinite (moderate yellow to moderate orange fluorescence), cutinite (moderate yellow to moderate orange fluorescence), resinite (bright yellow fluorescence), suberinite (dull orange to dull brown fluorescence), bitumen (moderate orange fluorescence), telalginite (bright yellow fluorescence) and fluorinite (bright yellow fluorescence). Sporinite and cutinite are sparse in the sample whereas resinite, suberinite and bitumen are rare. Telalginite and fluorinite are present in trace amounts.

5. DISCUSSION

Table 1 illustrates the relative abundances of the maceral groups in each of the samples. The table also shows the total organic carbon values, the abundance of exinite and the types of exinites present in each sample. Reflectance data presented in histogram form follows Table 1.

= ≈ base Eocene Latrobe

The reflectance data indicates that the sequence is mature below approximately 8250 ft. Significant quantities of oil may be generated from the resinite and suberinite rich samples in the sequence. The samples studied have moderate to high source rock potentials excepting sample 1 from 7350-7360 ft in which exinite is present in trace amounts. Fluorinite in samples 5, 6 and 7 indicates that oil is being generated from these samples. This oil is probably largely derived from the resinite and suberinite in these samples as the main generation range for these macerals is 0.5-0.8% R_V max. The main generation range for sporinite and cutinite is 0.7-0.9% $\bar{R}_V$ max. Therefore these macerals may generate significant quantities of hydrocarbons at greater depths.

In conclusion, these samples generally have a moderate to high source rock potential. Fluorinite in the samples below 9000 ft indicates that oil has been generated from these beds. However, the sequence below 10,000 ft probably also has high source rock potential.

TABLE 1: ORGANIC MATTER TYPE AND ABUNDANCE

Depth Ft	Relative Maceral Group Volumes	Total Organic Carbon (%)	Estimated Volume of Exinite	Exinite Macerals
7350-7360	I > > V ≧ E	0.30	tr	cut
7720-7730	*V > I > E V > E > I	10.9	co	res, sp, cut, lipto, tela, sub,
8320-8330	*V > I > E V > E ≧ I	11.9	spa	res, sp, cut, lipto, sub, ?D/A.
8760-8770	*V > I > E V > I > E	2.96	spa	res, sp, cut, sub.
9050-9060	*V > I > E V > I ≧ E I > V > E	16.5	spa	sp, cut, res, sub, bmen, fluor,
80-9590	V > I > E V > E > I	5.90	spa-co	res, sp, bmen, lipto, cut, fluor.
9710-9720	V > I > E V > E ≧ I I > V ≧ E	4.5	spa-co	sp, cut, res, sub, bmen, tela, fluor.

Key

V	Vitrinite
I	Inertinite
E	Exinite
sp	Sporinite
res	Resinite
cut	Cutinite
D/A	Dinoflagellate/Acritarch
lipto	Liptodetrinite
bmen	Bitumen
tela	Telalginite
sub	Suberinite
fluor	Fluorinite
*	coal grains
tr	trace
co	common
spa	sparse

GURNARD NO. 1

7350-7360 FT

SORTED LIST
.44 .49 .53
Number of values = 3

MEAN OF VALUES .487
STD DEVIATION .037

HISTOGRAM OF RESULTS
Values are reflectance multiplied by 100

```
44   |*
45   |
46   |
47   |
48   |
49   |*
50   |
51   |
52   |
53   |*
```

GURNARD NO. 1

7720-7730 FT

SORTED LIST

.42 .44 .45 .45 .45 .45 .45 .46 .46 .46 .46 .47 .47 .47 .47 .47
.48 .48 .48 .49 .49 .49 .49 .5 .5 .5 .51 .51 .52 .52 .53 .54 .
4 .56 .62

Number of values = 35

MEAN OF VALUES .487

STD DEVIATION .039

HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100

```
 42  | *
 43  |
 44  | *
 45  | *****
 46  | ****
 47  | *****
 48  | ***
 49  | ****
 50  | ***
 51  | **
 52  | **
 53  | *
 54  | **
 55  |
 56  | *
 57  |
 58  |
 59  |
 60  |
 61  |
 62  | *
```

GURNARD NO. 1

8320-8330 FT

SORTED LIST

.41 .41 .42 .43 .44 .44 .44 .45 .45 .46 .46 .46 .47 .48 .48 .49
.49 .49 .5 .5 .51 .51 .51 .52 .52 .52 .53 .53 .54 .54 .54 .55 .
55 .6

Number of values = 34

MEAN OF VALUES .489

STD DEVIATION .045

HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100

```
41   | **
42   | *
43   | *
44   | ***
45   | **
46   | ***
47   | *
48   | **
49   | ***
50   | **
51   | ***
52   | ***
53   | **
54   | ***
55   | **
56   |
57   |
58   |
59   |
60   | *
```

GURNARD NO. 1

8760-8770 FT

SORTED LIST

.43	.44	.45	.45	.45	.46	.46	.47	.47	.47	.47	.48	.48	.51	.51	.5
.52	.53	.53	.54	.54	.54	.54	.55	.55	.55	.56	.56	.56	.56	.57	.5
.58	.59	.61	.63												

Number of values = 36

MEAN OF VALUES .52

STD. DEVIATION .052

HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100

```
43   |*
44   |*
45   |***
46   |**
47   |****
48   |**
49   |
50   |
51   |**
52   |**
53   |**
54   |****
55   |***
56   |****
57   |*
58   |**
59   |*
60   |
61   |*
62   |
63   |*
```

GURNARD NO. 1

9050-9060 FT

SORTED LIST

.45 .46 .46 .47 .47 .48 .48 .49 .49 .5 .51 .52 .52 .53 .53 .54
.54 .54 .54 .55 .55 .55 .56 .57 .57 .58 .58 .58 .59 .59 .59 .61
.61

Number of values = 33

MEAN OF VALUES .533
STD DEVIATION .046

HISTOGRAM OF RESULTS
Values are reflectance multiplied by 100

```
 45   | *
 46   | **
 47   | **
 48   | **
 49   | **
 50   | *
 51   | *
 52   | **
 53   | **
 54   | ****
 55   | ***
 56   | *
 57   | **
 58   | ***
 59   | ***
 60   |
 61   | **
```

GURNARD NO. 1

9580-9590 FT

SORTED LIST
.46 .46 .46 .47 .47 .47 .48 .48 .48 .48 .49 .5 .5 .5 .51 .51 .
2 .53 .53 .53 .54 .54 .54 .55 .55 .55 .55 .56 .56 .56 .6 .62
Number of values = 32

MEAN OF VALUES .517
STD DEVIATION .041

HISTOGRAM OF RESULTS
Values are reflectance multiplied by 100

```
46  | ***
47  | ***
48  | ****
49  | *
50  | ***
51  | **
52  | *
53  | ***
54  | ***
55  | ****
56  | ***
57  |
58  |
59  |
60  | *
61  |
62  | *
```

GURNARD NO. 1

9710-9720 FT

SORTED LIST

.47	.47	.5	.5	.51	.51	.51	.51	.51	.52	.52	.52	.53	.53	.53	.53
54	.54	.55	.55	.56	.56	.56	.56	.57	.57	.58	.58	.59	.61	.62	.62
62	.63	.64	.65												

Number of values = 36

MEAN OF VALUES .552
STD DEVIATION .046

HISTOGRAM OF RESULTS
Values are reflectance multiplied by 100

```
47   | **
48   |
49   |
50   | **
51   | *****
52   | ***
53   | ****
54   | **
55   | **
56   | ****
57   | **
58   | **
59   | *
60   |
61   | *
62   | ***
63   | *
64   | *
65   | *
```

PE603430

This is an enclosure indicator page.
The enclosure PE603430 is enclosed within the container PE906104 at this location in this document.

The enclosure PE603430 has the following characteristics:

ITEM_BARCODE	= PE603430
CONTAINER_BARCODE	= PE906104
NAME	= Grapholog Mud Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Grapholog Mud Log (enclosure from Well Summary) for Gurnard-1
REMARKS	=
DATE_CREATED	= 06/10/1969
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	= CORE LABORATORIES AUSTRALIA LTD
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603431

This is an enclosure indicator page.
The enclosure PE603431 is enclosed within the container PE906104 at this location in this document.

The enclosure PE603431 has the following characteristics:

ITEM_BARCODE	= PE603431
CONTAINER_BARCODE	= PE906104
NAME	= Induction-Electrical Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Induction-Electrical Log (enclosure from Well Summary) for Gurnard-1.
REMARKS	=
DATE_CREATED	= 28/10/1969
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603432

This is an enclosure indicator page.
The enclosure PE603432 is enclosed within the container PE906104 at this location in this document.

The enclosure PE603432 has the following characteristics:

ITEM_BARCODE	= PE603432
CONTAINER_BARCODE	= PE906104
NAME	= Sonic Log-Gamma Ray
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Borehole Compensated Sonic Log - Gamma Ray (enclosure from Well Summary) for Gurnard-1.
REMARKS	=
DATE_CREATED	= 28/10/1969
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603433

This is an enclosure indicator page.
The enclosure PE603433 is enclosed within the container PE906104 at this location in this document.

The enclosure PE603433 has the following characteristics:

ITEM_BARCODE	= PE603433
CONTAINER_BARCODE	= PE906104
NAME	= Formation Density Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Compensated Formation Density Log (Gamma Gamma), enclosure from Well Summary, for Gurnard-1.
REMARKS	=
DATE_CREATED	= 28/10/1969
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603434

This is an enclosure indicator page.
The enclosure PE603434 is enclosed within the container PE906104 at this location in this document.

The enclosure PE603434 has the following characteristics:

ITEM_BARCODE	= PE603434
CONTAINER_BARCODE	= PE906104
NAME	= Continuous Dipmeter
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Continuous Dipmeter (four-arm high resolution) Log, enclosure from Well Summary, for Gurnard-1
REMARKS	=
DATE_CREATED	= 28/10/1969
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE906103

This is an enclosure indicator page.
The enclosure PE906103 is enclosed within the container PE906104 at this location in this document.

The enclosure PE906103 has the following characteristics:

ITEM_BARCODE	= PE906103
CONTAINER_BARCODE	= PE906104
NAME	= Time-Depth Curve
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= Time-Depth Curve (basic data), enclosure from Well Summary, for Gurnard-1. Interpretative section missing.
REMARKS	=
DATE_CREATED	= 02/09/1971
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE604687

This is an enclosure indicator page.
The enclosure PE604687 is enclosed within the container PE906104 at this location in this document.

The enclosure PE604687 has the following characteristics:

ITEM_BARCODE	= PE604687
CONTAINER_BARCODE	= PE906104
NAME	= Well Completion Log
BASIN	= GIPPSLAND BASIN
PERMIT	= VIV/P1
TYPE	= WELL
SUBTYPE	= COMPLETION_LOG
DESCRIPTION	= Well Completion Log (enclosure from Well Summary) for Gurnard-1
REMARKS	=
DATE_CREATED	= 3/11/69
DATE_RECEIVED	=
W_NO	= W559
WELL_NAME	= GURNARD-1
CONTRACTOR	= ESSO
CLIENT_OP_CO	= ESSO

(Inserted by DNRE - Vic Govt Mines Dept)