Natural Resources and Environment

AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

WELL SUMMARY

NANNYGAI-1 (W648)

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

EARLIER FILES	LATER FILES	RECORDS DISPOSITION

RELEVANT FILES

UNSUCCESSFUL NFWC.
NANNYGAI-1.

SPUD. 11-7-72.
T.D.R. 28-7-72.
TD. 9905'
ESSO Vic/P1. W648

38° 33' 11" S.
147° 59' 46" E.
W.D. 225'. KB. 32'.
GLOMAR CONCEPTION

ISF/SONIC. RUN 1.	2761'-9875'.	2" AND 5" SCALE.
ISF/B.H.C.S. " 1.	2761'-9795'.	2" & 5" " .
FDC/CNL/GR. " 1.	GR. 2761' 7050'-9901'.	2" & 5" " .
DIPMETER INTERPRETATION.	6900'-9880'.	2" AND 5" " .
BAROID MUDLOG	797'-9905'.	+ 1c
ADT.	797'-9905'.	+ 1c
"d" EXPONENT LOG	800'-9905'.	+ 1c
S.W.C. DESCRIPTIONS.	RUN 1. 1-30 (FORM).	
" " .	" 2. 31-60 (").	
CORE No. 1. " .		
TIME DEPTH CURVE.		

PALYNOLOGY SUMMARY OF NANNYGAI-1 BY A.D. PARTRIDGE.
PALYNOLOGIC REPORT BY A.D. PARTRIDGE.
MICROPALAEONTOLOGY REPORT BY D.J. TAYLOR.
DAILY & WEEKLY REPORTS
WELL COMPLETION LOG.
COMPLETION REPORT (SKETCHY)
NOTICE OF INTENTION TO DRILL. + 1c
AUTHORIZATION TO DRILL. + 1c
DRILLING PROGRAM. + 1c
PALYNOLOGICAL SHEET BY W.K. HARRIS
VITRINITE REFLECTANCE BY AMOCO. 220486.

Director Quality Assurance DQA
Director Agribusiness DA

WELL SUMMARY
NANNYGAI-1
(W648)

CONTENTS PAGE:

Enclosures...

Well Completion Log
Mud Log (Baroid0
ADT Mud Log
Dipmeter Log
Drill Data Log
Time/Depth Curve
Isochron Map
Geological Cross Section
Structure Map (Top of Latrobe)
Structure Map (Mid Paleocene Seismic Marker
Seismic Section (Line G71B-552)
Seismic Section (Line G71B-551)
Seismic Section (Line G71A-473A)

COMPLETION REPORT

ESSO STANDARD OIL (AUSTRALIA) LTD.

COMPLETION REPORT

I WELL DATA RECORD

Date _____

LOCATION

WELL NAME	STATE	PERMIT or LICENCE	GEOLOGICAL BASIN	FIELD
NANNYGAI-1	Victoria	Vic. P/1	GIPPSLAND	

CO-ORDINATES	Lat.	Long.	X	Y	MAP PROJECTION	GEOGRAPHICAL DESCRIPTION
Surface	38°33'11"S	147°59'46"E	586,792E	5732,341N	AMG-AGD Zone 55	38 miles offshore, 55 miles from Sale, Victoria
Bottom Hole						

ELEVATIONS & DEPTHS

ELEVATIONS	WATER DEPTH	TOTAL DEPTH	Avg.Angle
Ground MSL KB + 32' RT Braden Head Top Deck Platform	225'	M.D. 9905' T.V.D.	Straight hole
	PLUG BACK DEPTH	REASONS FOR P.B.	
	320'	Abandonment	

DATES

MOVE IN	RIG UP	SPUDDED
July 9, 1972	July 9, 1972	July 11, 1972
RIG DOWN COMPLETE	RIG RELEASED	PROD.UNIT - Start Rigging Up
August 3, 1972	August 3, 1972	-
PROD.UNIT - Rig Down Complete		I.P. ESTABLISHED
-		-

MISCELLANEOUS

OPERATOR	PERMITTEE or LICENCEE	ESSO INTEREST	OTHER INTEREST
Esso Australia	Hematite Petroleum	100%	

CONTRACTOR	RIG NAME	EQUIPMENT TYPE
Global Marine	"Glomar Conception"	Ship Shape Drilling Vessel

TOTAL RIG DAYS	DRILLING AFE NO.	COMPLETION NO.	TYPE COMPLETION
24.98	232.304		

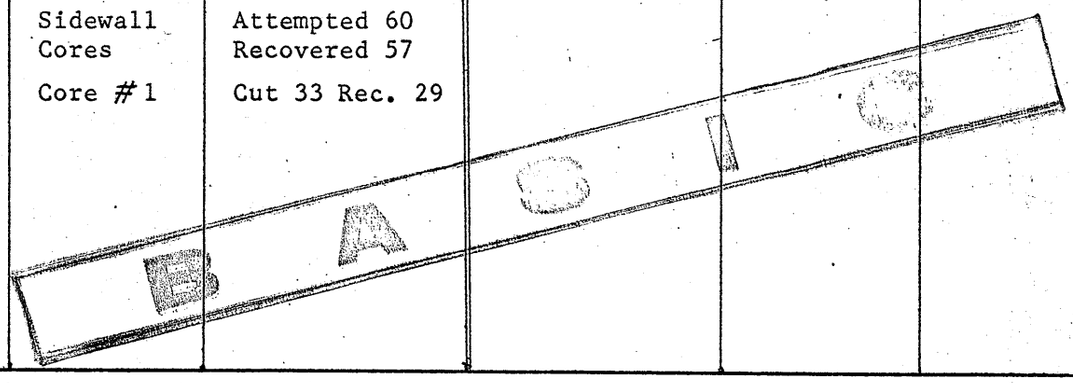
LAHEE WELL CLASSIFICATION		
	Before Drilling	New Field Wildcat
	After Drilling	Unsuccessful New Field Wildcat

Bruce McKay / W. Threlfall
Geologist

WELL NANNYGAI-1

VII SAMPLES, CONVENTIONAL CORES, SW CORES

INTERVAL	TYPE	RECOVERED	INTERVAL	TYPE	RECOVERED
797 - 9905	Cuttings (washed and dried)	Every 10 - 30ft			
797 - 9905	Cuttings (unwashed sacked)	Every 10-30 ft			
797 - 9905	Cuttings (canned)	Every 100 ft.			
6000 - 9852	Sidewall Cores	Attempted 60 Recovered 57			
7300 - 7333	Core #1	Cut 33 Rec. 29			



VIII WIRELINE LOGS AND SURVEYS Incl. FIT)

Type & Scale	From To	Type & Scale	From To
ISF 2") ISF/BHC 5")	9875 - 2761		
FDC-CNT-GR 2") 5")	9881 - 7050 (GR 9881-2761)		
HDT	9883 - 6900		
Velocity Survey			

Bruce McKay
Geologist

WELL NANNYGAI-1

IX	FORMATION TOPS/Zones					
NAME	Tops		Gross Interval (ft)	Net Pay (ft).		REMARKS
	M.D.	Sub-sea		Gas	Oil	
Base Channel	4456	-4424				
Mid Miocene	5726	-5694				
Oligocene	6340	-6308				
Oligocene (2)	6650	-6618				
Lower Oligocene (AA)	7110	-7078				
LATROBE GROUP	7190	-7158				
Latrobe Coarse Clastics	7260	-7228				
L. N. asperus-P. asperopolous	7350	-7318				
Mid M. diversus Marker	7804	-7772				
Mid Paleocene Marker	9760	-9728	9510 - 28'		18'	Non-Productive (SW 65%-80% Ø 8%-15%)

X GEOLOGIC ANALYSIS (Pre Drilling prognosis Vs actual results)

Pre-Drill: The Nannygai feature is a top of Latrobe (Eocene and intra-Latrobe Paleocene) anticlinal closure exhibiting increasing vertical relief with depth. Structural growth was thought to have occured from Paleocene into the Lower Oligocene. The primary objective of the well was to test the Top of the Latrobe Group.

AGE	FORMATION	DEPTH
	Water Depth	220
Miocene		- 220'
Lower Oligocene		-6875'
Eocene	Latrobe Group	
	- Lower N. asperus	-6900'
	- Upper M. diversus	-7100'
	- Mid M. diversus Marker	-7500'
Paleocene	Mid Paleocene Marker	-9200'
P.T.D.		10,000'

Add 32' for drill depths.

Post Drill: The top of the Latrobe Group was 258' low to prediction and no significant hydrocarbons were present. An 18' net, non-productive, oil show occurred in an isolated point bar sand between 9510' - 28'.

Seismic time picks to the various mapped horizons were accurate but extreme velocity variations in the marine section above the Latrobe and regional conversion factor changes were neither fully anticipated nor accounted for. Whether or not Nannygai is a closed structure is questionable, if it is, it would appear to have had late (Upper Miocene) growth. Either case explains the lack of significant hydrocarbon accumulations.

Bruce McKay/W.F. Threlfall
Geologist

WELL NANNYGAI-1

IV	CASING - LINER - TUBING RECORD						
Type	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
	ROTARY BUSHING TO 16¾" x 30" CASING HOUSING					-	251.00
30"/20"	PILE JOINT				1	44.35	295.35
	20"	154#-0.75"WT	X-52 LP	JV/CC	1)		
	20"	91.5#-0.438"WT	X-52 LP	JV	10)	444.26	739.61
	ROTARY BUSHING TO 13⅜" CASING HANGER					-	257.00
	13⅜"	54.5	J-55	Butt	64	2504.40	2761.40
PILE JOINT AND WELLHEAD RECOVERED							

V	CEMENT RECORD		
String	30"/20" Pile Joint	20" casing	13⅜" casing
Type of Cement	50 sx Aust. 'N' neat cement w/ 2% $CaCl_2$	785 sx Aust. 'N' w/ 6% gel	800 sx Aust. 'N' neat
Number of FT^3	59 cu. ft.	1327 cu.ft.	944 cu.ft.
Average weight of slurry	15.6 ppg	13.7 ppg.	15.6 ppg
Cement Top	-	Tag @ 735'	Tag @ 2715'
Casing Tested with	-	500 psi	1500 psi
Number of Centralizers	-	6	6
Number of Scratchers	-	-	-
Stage Collar etc.	-	-	-
Remarks	-	Tail w/ 350 sx neat w/ 2% $CaCl_2$ Did not reciprocate	Did not reciprocate

J.M. MACONOCHIE
Engineer

WELL

II	INITIAL PRODUCTION TEST				
Date	WELL COMPLETION AS: Oil Well _____		Gas Well _____		Dry Hole _____
Choke size, inch			Calculated P.I.		
Length of Test			Calculated A.O.F.		
Oil, BPD			Perforations		
Water, BPD			Shut-In BHP		
Gas, MCFD			Flowing BHP		
Gas Liquids, BPD			Shut-In Tubing Press		
Gas-Oil Ratio			Flowing-Tubing Press		
Gravity, API			Flowing Temperature		

III	PERFORATING RECORD (Prod.test, Completion, DST, FIT)					
INTERVAL	HPF	TOTAL SHOTS	SERV. CO.	DIFF. PRESS.	PERFORATION FLUID	SIZE AND TYPE GUN

Engineer

WELL

VI

SUBSURFACE COMPLETION EQUIPMENT

DATE COMPLETED ____________

Schematic	Equipment Description	Length	Depth

Engineer

LITHOLOGY

BASIC

ESSO AUSTRALIA LTD.
SIDEWALL CORE DESCRIPTIONS

IES RUN NO 1 SWC RUN NO 4 DATE 30 July 1972
ATT 30 REC 28
PAGE 1 OF 2

Page 1 of 4

WELL NAME/NO.
GEOLOGIST J. Black
SERVICE CO. Schl Lmb.

NO. 1a	DEPTH 1	REC 2	ROCK TYPE 3	MODIFIERS 4	CAL 5	COLOR 6	INDUR DEG 7	GRAIN SIZE 8	SRTG 9	RND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE % RK	FLOURESCENCE DISTR 14	FLOURESCENCE INTEN 15	FLOURESCENCE COLOR 16	CUT FLUOR. INTEN 17	CUT FLUOR. COLOR 18	CUT RESIDUE QUAN 19	CUT RESIDUE COLOR 20	SHOW 21	PROB PROD 22	REMARKS - GAS 23
1	9852	½	SS	Carb. slty.	-	gr.wh	Fri	VF	Mod	SR	+15%	-	100	ev.	fnt	yello	FNT	FNT	TR	TR	O?	W?	Resid. Oil?
2	9763	0	No Recov. - shot off																				
3	9688	7/8	SH	Slty	-	brn'sh	Sft		-	-	-	-	-		-	-		-	-	-	-	-	C1/C2/C3/C4/5
4	9555	7/8	SS	Clean	-	wh	Fri	M/vc	P	sa/sr	-	-	100	ev	FNT	dull yell	Min	-	-	-	-	-	- - - - - -
5	9539	¾	SS	Silty	-	wh	Fri	f/vc	P	sa/sr	+15%	-	100	ev	FNT	dull yell	Min	-	-	-	-	-	-/-/-/-/-/
6	9537	1"	Coal	Conc., woody-		blk	Frm	-	-	-	-	-	-	-	-		-	-	-	-	-	-	9000/750/-/-/-/
7	9524	½	SS	Clean	-	wh	Fri	mg	Mod	sa/sr	-	-	80	ev	FNT	yello	FNT	FNT	TR	TR	resid O	W?	-/-/-/-/300
8	9517	5/8	SS	V. carb slty-arg.	-	dk brn	Sft	VFG	P	sr/sa	+20%	-	-	-	-	-	tr min?	-	-	-	-	-	1500/800/300/ /-/
9	9513	5/8	SS	silty, dirty	-	Wh	Fri	f/m	P	sr/sa	+25%	-	60	ev	FNT	dull yell	min.	-	-	-	-	-	-/-/-/-/-/
10	9507	¾	SH	coaly	-	dkbrn	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1800/1000/400/-/-
11	9430	¾	SH	slty, v pyr	-	dk brn gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	9354	0	NO RECOV. - SHOT OFF																				
13	9238	½	SS	slty	-	wh	fri	vf/f	mod.	SR	+15%	-	60	ev.	FNT	dull yell	FNT	V.FNT	TR	TR	G?	-	
14	9134	5/8	SS	slty,carb.	-	wh	Soft	vfg	mod.	SR	+20%	-	-	-	-	-	-	-	-	-	-	-	
15	9086	1 3/8	SH	coaly,mica	-	brn	frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	8952	1 3/8	sltst	Arg.	-	gr wh	frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	8860	½	SS	slty,mica	-	gr wh	Fri	vfg	mod	SR	+25%	-	-	-	-	-	-	-	-	-	-	-	
18	8754	5/8	SH	slty,carb.	-	lt gr	Sft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	8629	¾	SS	slty,arg.	-	wh	fri	vfg	mod	SR	+25%	-	60	ev	FNT	dull yello	min.	-	-	-	-	-	
20	8537	1 1/8	SS	slty	-	wh	fri	vfg	mod	SR	+25%	-	60	ev	FNT	dull yello	min	-	-	-	-	-	
21	8437	5/8	SS	shaly banded-	-	gr wh	fri	f.g	mod	SR	+20%	-	-	-	-	-	-	-	-	-	-	-	
22	8365	½	sltst	Arg.mica	-	gr	frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	8272	½	SH	tr.glauc.slty-	-	gr brn	frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	8196	5/8	SH	f. mica	-	m.gr.	frm	-	-		-	-	-	-	-	-	-	-	-	-	-	-	
25	6500	1¾	SH	sli silty	V	GR	frm	-	-	-	-		-			-	-	-	-	-	-	-	
26	6400	1½	SH	foss, mass.	V	dk gr	frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27	6300	1 3/8	SH	silty	V	m.gr.	hd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	6190	1½	SH	arg.	V	m.gr.	frm.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

FORM R 257 3/72

2 of 4

WELL NANNYCAT

GEOLOGIST Black

SERVICE CO Schlumb

ESSO AUSTRALIA LTD.
SIDEWALL CORE DESCRIPTIONS

PAGE 2 OF 2

ATT 30 REC 28

IES RUN NO 1 SWC RUN NO 1 DATE 30 July 1972

NO. 1a	DEPTH 1	REC 2	ROCK TYPE 3	MODIFIERS 4	CAL 5	COLOR 6	INDUR DEG 7	GRAIN SIZE 8	SRTG 9	RND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE % RK	FLOURESCENCE DISTR 14	FLOURESCENCE INTEN 15	FLOURESCENCE COLOR 16	CUT FLUOR. INTEN 17	CUT FLUOR. COLOR 18	CUT RESIDUE QUAN 19	CUT RESIDUE COLOR 20	SHOW 21	PROB PROD 22	REMARKS - GAS 23
30	6000	1 3/8	SH	silty	V	lt gr	Hrd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	6100	1½	SH	sli silty	V	lt gr	Firm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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ATT 30 REC 29

DATE 31 July 1972

SWC RUN NO 2

IES RUN NO 1

ESSO AUSTRALIA LTD.

SIDEWALL CORE DESCRIPTIONS

NANNYGAI-

J. Black

Schlumb

NO.	DEPTH	REC	ROCK TYPE	MODIFIERS	CAL	COLOR	INDUR DEG	GRAIN SIZE	SRTG	RND	DISS CLAY	STAIN	FLOURESCENCE %	FLOURESCENCE DISTR	FLOURESCENCE INTEN	FLOURESCENCE COLOR	CUT FLUOR. INTEN	CUT FLUOR. COLOR	CUT RESIDUE QUAN	CUT RESIDUE COLOR	SHOW	PROB PROD	REMARKS - GAS
1a	1	2	3	4	5	6	7	8	9	10	11	12	RK	14	15	16	17	18	19	20	21	22	23
31	8050	3/4	SH	Slty, Carb.	-	Dk Gr	Frm.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32	7935	7/8	SH	Pyr.,Mica	-	Dk.Br. Gr.	Frm.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
33	7788	3/4	SH/SS	Lam.	-	Dk. Gr & Wh	Sft	M.g.	W	SR	15%	-	-	-	-	-	-	-	-	-	-	-	C1/C2/C3/C4/C5
34	7691	7/8	SS	Mica	-	Gr.Wh	Fri.	f/m	Mod.	SA	-	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
35	7607	3/4	Sltst	Sdy Arg	-	Dk Brn	Sft/ Frm	M.g	P	SA	25%	-	-	-	-	-	-	-	-	-	-	-	
36	7486	7/8	SS	Slty,sli carb-	-	Wh	Fri	f/m	P	SR	15%	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
37	7427	1/4	SS		-	BrnWh	Fri	f/crs	P	SA	20%	-	-	-	-	-	-	-	-	-	-	-	Mostly Washed out
38	7385	7/8	SS	V. silty	-	Lt Gr.	Fri	f/m	P	SA	20%	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
39	7372	3/4	SS	V. silty	-	Wh	Fri	f/m	P	SA	20%	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
40	7348	7/8	SS	silty, mica	-	Lt gr.	Fri	F	Mod	SA	20%	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
41	7334	5/8	SS	Good P & P	-	Wh	Fri	M/vc	P	SR	-	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
42	7294	7/8	Sltst	Sh. Bands	-	m.gr.	Fri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-/-/-/-/-
43	7286	1	Cgl.	Glauc.	-	Dk grn	Frm	vf/ peb	VP	R	25%	-	-	-	-	-		-	-	-	-	-	Basal Lakes
			CONT	PEBS OF LATROBE		RE WORKED ?																	Entrance ?
44	7268	1 1/8	Slst	glauc.sdy.	-	Brn	Frm	Crse	VP	SA SR	25%	-	-	-	-	-	-	-	-	-	-	-	w/ Reworked Latrobe Sd. gs. ?
45	7258	1 3/8	Slst.	Glauc?Sdy	-	Dk Brn	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
46	7250	1 3/8	Sltst	V. glauc.	-	Dk Brn	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
47	7230	1 1/4	Sltst	Pyr.T. glauc	-	Brn	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48	7210	1 1/8	Sltst	V.V. glauc.	sli	Brn	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Large Pellets glauc
49	7190	1 1/8	SH	Slty.glauc.	V	Brn	sft/ frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50	7170	1 3/8	Marl	Mass.	V	Lt gr	sft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
51	7150	0	No	Recov. Broken		Bullet																	
52	7130	1 1/8	Marl		V	Lt gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
53	7110	1	Marl		V	brn gr	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	7090	1 1/8	SH	Marly	V	Lt gr	Sft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
55	7070	1 3/8	SH	Mass. arg.	V	Lt gr.	Sft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
56	7000	1 5/8	SH		V	M gr.	Sft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
57	6900	1 3/8	SH		V	M gr.	Sft	-	-	-	-		-	-	-	-		-	-	-	-	-	

R 257 3/72

WELL Nannygai

GEOLOGIST J. Black

SERVICE CO. Schlumb.

ESSO AUSTRALIA LTD.
SIDEWALL CORE DESCRIPTIONS

ATT 30 REC 29

IES RUN NO 1 SWC RUN NO 2 DATE 31 July 1972

FORM R 257 3/72

NO.	DEPTH	REC	ROCK TYPE	MODIFIERS	CAL	COLOR	INDUR DEG	GRAIN SIZE	SRTG	RND	DISS CLAY	STAIN	FLOURESCENCE % RK	FLOURESCENCE DISTR	FLOURESCENCE INTEN	FLOURESCENCE COLOR	CUT FLUOR. INTEN	CUT FLUOR. COLOR	CUT RESIDUE QUAN	CUT RESIDUE COLOR	SHOW	PROB PROD	REMARKS - GAS
1a	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
58	6600	1 3/8	SH	Foss.	V.	Lt Gr	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
59	6700	1¾	SH	Mass.	V.	Mgr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
60	6600	1¾	SH	Mass.	V.	Dk gr	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

BASIC

Page 1 of 1

ESSO STANDARD OIL (AUSTRALIA) LTD.

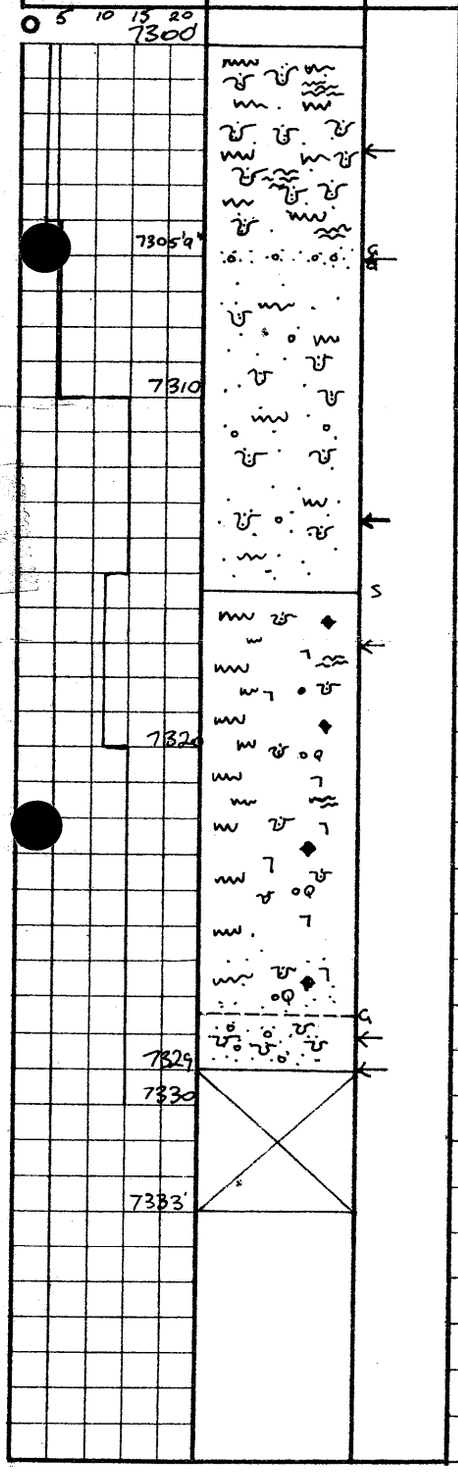
CORE DESCRIPTION

Core No. 1

WELL: NANNYGAI #1

Interval Cored 7300'-7333' ft., **Cut** 33' ft., **Recovered** 29' ft., (87 %) **Fm.** Latrobe.

Bit Type Christensen C-19, **Bit Size** 8 15/32" in., **Desc. by** A.J. Mebberson **Date** 20 July 1972



Interval (ft.)	Descriptive Lithology
7300'-7305'9"	SILTSTONE: Very sandy, grey, firm to friable, extensively burrowed & reworked, burrows filled with sandstone, white, clear to frosted, subangular to rounded, friable, medium to fine grained. Burrows up to 1" diameter. Some discontinuous, wavy subparallel bedding, but mostly mottled. No show.
7305'9"-7306'3"	SAND: quartzose, grey to white, coarse to fine grained, generally medium grained, poorly sorted, friable to mod firm. No structures. No show. Upper and lower boundaries gradational. Poor ϕ & K.
7306'3"-7315'6"	SAND: qtze, white to grey, silty in parts, med to fine grained, occassionally coarse (well rounded), subangular to well rounded, poorly sorted, to moderately well sorted, heavily mottled, extensively burrowed. No show. Poor ϕ & K.
7315'6"-7327'6"	SILTSTONE: Grey-brown, pyritic (altered), micaceous, hard, heavily burrowed in parts, massive to irregularly laminated in parts; burrows filled with sand: quartz, white, medium to fine grained, sub angular to sub rounded, no show. Siltstone contains well rounded v. coarse quartz grains. Grades into —
7327'6"-7329'	SAND: grey-white, quartzose, very poorly sorted, coarse to silt, firm, burrowed, infilled with coarse to medium grained clean sand, moderately well sorted, no show. Poor ϕ & K.
7329'-7333'	. No Recovery

Strong H_2S odour in upper half of core when freshly broken, rapidly disappearing. No reaction on H_2S detector.

REMARKS: ← Palynology

Environment : Shoreface ?

A.J. Mebberson

SAMPLE DESCRIPTION from

Where is int 797 – 6309 ?

Nannygai-1

18-7-72

6309-6500	100% Calcareous shale, grey-green, trace fossils (some caved) Lakes Entrance Formation
6500-6600	100% calcareous shale, as above, trace buff siltstone green as above
6600-6720	100% calcareous shale as above
6720-50	100% calcareous shale, fissile green-grey, slightly silty in parts, occasional traces soft gummy marl.
6750-6780	100% calcareous shale as above, trace forams
6780-6810	100% shale as above trace sticky marl, trace buff siltstone
6810-6840	100% shale as above
6840-6870	100% shale as above, trace buff siltstone, slightly friable.
6870-6900	100% shale as above, trace siltstone as above, trace marl as above.
6900-30	100% shale as above, trace siltstone as above, trace pyrite
6930-60	100% shale as above, trace pyrite as above
6960-70	100% shale as above, silty
6920-80	100% shale as above
6980-90	As above
6990-7000	As above
7000-7010	As above
7010-20	As above
7020-30	As above
7030-40	As above
7040-60	100% shale as above silty
7060-80	100% silty shale as above, trace pyrite
7080-90	100% silty shale as above
7090-7100	100% shale and shaley silt as above, Very silty in parts
7100-10	60% shale as above 40% shaley silt, grey, friable firm as above, trace pyrite
7110-20	60% shale as above 40% siltstone as above Trace pyrite, trace glauconitic sandy silt. (white-green)
7120-30	60% shale as above, 40% siltstone as above Trace pyrite and glauconitic sandy silt as above

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7130-40 60% silt as above
40% shale as above
Trace glauconitic silt, trace pyrite

7140-60 60% silt as above
40% shale as above
Trace pyrite, trace glauconitic sandy silt

7160-70 20% silt, slightly sandy in parts, (grey-white), trace glauconite, slightly calcareous
20% shale as above
60% siltstone, buff-grey as above

2185.41

7170-80 40% "greensand", white very fine - silt, friable, trace glauconite, trace pyrite, No shows.
60% shale and siltstone as above

7180-90 30% "greensand" as above
70% silty shale as above

7190-7200 40% "greensand" as above, more glauconite
60% silty shale as above

7200-10 2194 30% "greensand" as above
70% silty shale as above

7210-20 40% "greensand" as above, trace dark brown, weathered greensand
60% silty shale as above, cavings

7220-30 40% greensand as above, 10% dark brown oxidized greensand, abundant glauconite,
60% shale cavings

7230-40 30% "greensand" as above, mostly dark brown oxidized type, occasionally grey - white
70% shale cavings

7240-50 40% "greensand" as above, occasional pyrite
60% cavings

7250-60 40%"greensand" silty as above
60% cavings

7260-70 30% greensand mostly dark brown, very glauconitic, occasionally pyritic
70% cavings

7270-80 40% greensand as above
60% cavings as above

7280-90 40% greensand as above
60% cavings as above
Trace very well rounded, medium - fine grained, Fe stained quartz grains

7290-7300 40% greensand as above
2225 60% cavings
Trace quartz sand as above, more abundant

20-7-72.

7300' Circulation samples
100% sand quartz, clear frosted, coarse, moderately well sorted, loose grains, no show.

Cores # 1 7300-7333 Cut 33' Rec. 29'

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20/7/72
Nannygai-1.

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7333-7340	Poor samples - cavings of Lakes Entrance. Occasional coarse loose quartz grain, well rounded, frosted, no fluorescence.
7340-50	Poor samples as above. Very fine grained sand throughddesilter
7350-60	Poor samples as above, occasional coase to very fine grained sand as above, No shows.
7360-80	90% cavings 10% loose sand, coarse - fine as above
7380-7400	80% cavings 20% sand as above, coarse to fine generally medium, Most fine grained being lost through screen and appearing through desilter/desander
7400-7420	50% sand coarse - medium grained as above, No shows 50% cavings
7420-40	50% sand as above, well rounded, frosted. Most fine grained percentage lost through screen 50% cavings
7440-60	100% sand as above, white - frosted, loose, well rounded, coarse - medium grained, No shows Trace coal, dirty, brittle, black
7460-80	100% sand as above, some Fe staining, No shows.
7480-7500	100% sand as above
7500-7520	100% sand as above, coarse to medium grained, occasional grit. trace pyrite.No shows.
7520-7540	100% sand as above, no shows.
7540-60	100% sand as above, No shows
7560-80	100% sand as above, No shows
7580-7600	100% sand as above, No shows
7600-7620	100% sand as above, No shows
7620-7640	100% sand as above, No shows, slight increase in cavings
7640-7660	90% sand as above, white, quartz, coarse - fine grained, generally coarse to medium, well rounded, no shows 10% coal, black brittle, dirty.
7660-80	70% sand as above 30% coal as above
7680-7700	100% sand as above, generally more medium grained Trace coal as above
7700-7740	100% sandstone as above Trace brown, laminated siltstone, firm, trace coal, trace pyrite (maybe caved)
7740-50	100% sand as above, Sand medium grained, moderately well sorted, occasionally coarse. Some Fe stained quartz (may be caved) Trace coal.
7750-60	100% sand as above, well rounded, loose, generally medium grained, white, No shows, trace coal, trace siltstone as above

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7760-70	100% sand as above, No shows
7770-90	100% sand as above. Generally medium grained, well to sub-rounded Cavings still plentiful.
7790-7800	100% sand as above, generally medium grained
7800-7810 2397	90% sand as above 10% coal black, brittle lustrous
7810-20	80% coal as above 20% sand as above
7820-30	60% siltstone, brown, firm, flaky, non calcareous, carbonaceous 20% sand as above 20% coal as above
7830-40	40% siltstone as above 40% coal as above 20% sand as above
7840-60	60% siltstone as above, brown, firm, carbonaceous, flaky. 10% coal as above 20% sand as above, no shows
7860-90	50% siltstone as above 40% sand as above, No shows 10% coal as above
7890-7900	60% sand as above 40% siltstone as above Trace coal as above
7900-7920	100% sand as above trace brown siltstone as above, no shows
7920-40	100% sand as above, trace siltstone as above no shows
7940-50	60% sand as above, generally medium grained, occasionally coarse fines lost through screens 40% siltstone as above
7950-70	80% coal as above 10% siltstone as above) 10% sand as above) probably cavings
7970-80	70% sand as above, no shows 20% siltstone as above,) caved 10% coal as above)
7950-8000	70% sand as above 30% siltstone as above, trace coal
21/7/72 8000-8010	70% sand as above, no shows 30% siltstone as above
8010-20	60% sand as above 30% siltstone as above 10% coal
8020-30	90% sand as above 10% siltstone as above
8020-40	90% sand as above 10% siltstone as above
8040-50	100% coal, black brittle, dull to bright, occasional amber
8050-60	40% coal as above 40% siltstone as above 20% sand as above, no shows

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8060-80	60% sand as above 30% siltstone as above 10% coal as above
8080-90	50% sand as above, white, trace pyrite 50% siltstone, brown, carbonaceous, firm, flaky Trace coal as above
8090-8100	50% sand as above, medium to fine grained, coarse, white,no shows. 50% siltstone as above
8100-8110	70% siltstone as above 30% sand as above, no shows
8110-20	50% sand as above 50% siltstone as above
8120-30	70% sand as above, no shows 30% siltstone as above Trace white, very soft clayey material
8130-40	50% sand as above, loose, medium grained 40% sandstone, white, carbonaceous, very fine grained, cemented, sub-angular to sub-rounded, well sorted, no shows. 10% siltstone as above
8140-50	80% sand as above, half very fine grained, cemented 20% siltstone as above
8150-60	30% sand as above 60% coal as above 10% siltstone as above
8160-70	50% coal as above 30% sand as above 20% siltstone as above
8170-90	90% sand, generally loose grains some very fine grained, consolidat no shows 10% coal and siltstone as above
8190-8200	100% sand as above
8200-8210	100% sand as above
8210-20	100% sand as above, no shows 50% very fine grained, cemented type
8220-30	80% sand as above 20% siltstone as above
8230-50	100% sand as above, generally loose
8250-80	100% sand as above, 40% very fine grained, well cemented, carbonaceous, no shows
8280-8300	100% sand as above
8300-8320	60% siltstone as above, slightly lighter in colour 40% sand as above, generally very fine grained, well cemented No shows
8320-8350	50% sand as above, no shows, some loose 20% siltstone as above 30% coal, black, lustrous, brittle
8350-60	80% sand, very fine grained, grey - white, moderately well cemented, friable, slightly carbonaceous, sub-angular, trace min. fluorescence pale brown, no cut. No shows. 20% coal and siltstone as above

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8360-80	40% coal, trace amber 60% sand as above, trace min. fluorescence
8380-90	90% sand as above 10% coal as above, trace amber
8390-8400	100% sand as above very fine grained, cemented, sub-angular to sub-rounded, well sorted, very fine grained, slightly carbonaceous, friable. No shows.
8400-10	80% sand as above 20% coal as above
8410-20	50% coal as above 50% sand as above, very fine grained, occasional rare coarse grains
8420-40	60% sand as above, slightly carbonaceous 30% coal as above 10% siltstone, brown - grey, firm, flaky, carbonaceous
8440-50	60% coal as above 40% sand as above, no shows.

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8450-80	50% coal, 40% sand as above, no shows 10% siltstone as above
8480-8500	60% sand as above 30% siltstone as above 10% coal as above
8500-8510	90% sand as above, no shows 10% siltstone as above
8510-20	80% coal as above 20% sand as above, no shows
8520-50	100% sand as above, no shows
8550-80	80% sand as above, very carbonaceous 20% coal as above
8580-8620	80% sand as above, very fine grained 10% siltstone as above 10% coal as above
8620-30	90% sand as above 10% coal as above
8630-40	100% sand as above, trace coal
8640-50	100% sand as above
8650-70	100% sand as above
8670-90	100% sand as above
8690-8700	100% sand as above, white, very fine grained, slightly micaceous, carbonaceous, sub-angular to sub-rounded, well sorted No shows. occasional coarse grains
8700-10	100% sand as above, coal and siltstone cavings
8710-30	100% sand as above

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8730-40	100% coal as above
8740-50	80% sand as above 20% coal as above
8750-60	100% sand as above. No shows.
8760-70	90% sand as above, No shows. 10% coal as above
8770-80	80% sand as above 20% coal as above
8780-90	60% sand as above 40% coal as above
8790-8800	100% sand as above, No shows.
23/7/72	
8800-3850 2682	100% sand as above, generally medium to fine grained, occasional coarse loose grains. Trace siltstone as above
8850-60	100% sand as above, 50% loose grains, 50% very fine well cemented grains No shows
8860-70	40% sand as above, generally loose grains 60% coal as above
8870-80	100% coal as above
8880-90	30% coal as above 70% siltstone as above, brown, firm, flaky, slightly sandy
8890-8900	50% siltstone as above 50% sand as above, all very fine grained, well cemented, slightly micaceous, no shows.
8900-8910	60% coal as above 30% sand as above 10% siltstone as above
8910-20	80% coal as above 20% sand as above
8920-40	70% sand as above, No shows 30% siltstone as above
8940-50	100% sand as above, 50% loose grains, medium to fine grained, no shows.
8950-60	100% coal as above
8960-90	70% sand as above 30% coal as above
8990-9000	60% siltstone - probably caved 40% sand as above
9000-9010	50% sand as above 40% siltstone as above 10% coal as above
9010-20	70% siltstone - cavings 30% sand as above
9020-30	80% coal as above 20% sand as above, no shows

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9030-40	80% sand as above, no shows 20% siltstone as above Trace coal as above
9040-50	90% sand as above, no shows 10% coal as above,
9050-80 2758	100% sand quartz, white, coarse to fine, sub-angular to sub-rounded, loose grains.
9080-9100	60% sand, half loose type, half very fine grained type - 40% mudstone, grey - green, soft to firm, calcareous
9100-9140	60% sand, very fine grained as above, no shows 40% mudstone, soft to firm, light grey, slightly calcareous Trace siltstone as above
9140-50 2788	70% mudstone as above 30% sand as above, occasional coarse grains No shows Trace siltstone as above
9150-60	70% mudstone as above, slightly calcareous, massive 30% coal, black, brittle, shiny Trace sand as above, very carbonaceous, very fine grained, cemented Trace siltstone as above, carbonaceous
9160-70	80% mudstone as above, tending to be shaley 20% coal as above Trace sand as above, very fine grained, occasionally coarse, well rounded, trace siltstone as above
9170-80	50% shaley mudstone as above 50% coal as above
9180-90	50% coal as above 40% mudstone, shaley as above 10% siltstone, brown, carbonaceous, as above Trace sand, very fine grained, very pyritic, occasionally coarse.
9190-9200	40% coal as above 40% shaley mudstone as above 10% siltstone as above 10% sand as above, very fine grained, friable, occasionally carbonaceous
9200-10	60% shaley mudstone as above 20% coal as above 20% sand as above, carbonaceous, very fine grained, no shows.
9210-20	50% coal as above 30% shaley mudstone as above 20% sand, pyritic, carbonaceous, No shows. Very fine grained Trace siltstone as above
9220-30	60% sandy siltstone, light brown, occasionally very sandy, firm, slightly carbonaceous 40% coal as above - slight pale blue fluorescence in coal
9230-40	80% sand generally coarse to medium loose grains, No shows 20% siltstone as above Trace coal as above
9240-50	40% sand mostly coarse - medium grained, occasionally very fine grained, carbonaceous, slightly pyritic No shows. 40% mudstone, shaley, slightly carbonaceous, light grey 10% siltstone, very carbonaceous, dark brown 10% coal as above

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9250-60	50% grey carbonaceous shales, slightly micaceous 30% light grey mudstone as above 20% sand, very fine grained, slightly pyritic as above, occasionally coarse. No shows.
9260-70	60% very carbonaceous shale, almost splinty coal generally as above 10% coal as above 30% silty mudstone as above, light grey to brown Trace sand as above
9270-80	10% coal as above 80% silty shale, carbonaceous 10% sand as above
9280-90	60% coal as above 20% sand slightly pyritic,carbonaceous as above. No shows 20% silty shale, carbonaceous, dark to light grey - buff.
9290-9300	40% coal as above 30% carbonaceous silty shale, occasionally dark grey, generally light grey to brown 30% sand occasional coarse loose grains, generally very fine grained, pyritic, carbonaceous
9300-20	30% coal as above 30% carbonaceous shale as above 40% sand as above
9320-30	40% sand generally very fine grained as above 40% carbonaceous shale as above, silty 20% coal as above
9330-40	70% sand coarse to medium grained, well rounded, white, loose, occasionally very fine grained, consolidated. No shows. 30% carbonaceous shale and siltstone.
9340-50	70% sand as above, no shows 30% siltstone as above, trace carbonaceous shale
9350-60	50% sand as above, no shows 50% silty mudstone and shale, carbonaceous as above
9360-80	80% sand as above, no shows 20% siltstone, shaley in parts, light grey to brown, carbonaceous, as above Trace coal as above
9380-90	100% sand as above, generally coarse to medium grained loose grains, no shows, trace siltstone as above

SAMPLES

9390-9400	100% sand, very coarse to medium grained, moderately sorted, sub-rounded loose quartz. No shows Trace siltstone as above
Trip NB @ 9411	
9400-9410	100% sand, very coarse, angular, white - frosted quartz loose. No shows Trace siltstone as above
9410-20	90% sand as above some well rounded. No shows 10% siltstone as above, brown, carbonaceous
9420-30	70% sand generally as above, some very fine grained, consolidated, carbonaceous type, No shows 30% siltstone, carbonaceous as above
9430-40	40% sand as above. No shows 60% siltstone as above
9440-50	40% coal as above 40% siltstone as above 20% sand as above. No shows
9450-70	90% coal - Black conc. fracture 10% shale - light brown soft, tr. f.g. ss. glauconitic
9470-80	30% coal 20% shale 30% sandstone - brown-white fine grained, silty faint trace fluoresence, fair cut 20% sand
9480-90	10% Sandstone - as above, trace fluoresence 90% shale - brownish green carbonaceous soft.
9490-9500 1892.5	90% sandstone - brownish white, very fine grained, silty indur. calc. strong min. fluoresence. no cut 10% shale
9500-10	50% sandstone 10% coal 40% shale
9510-20	10% coal 80% shale, brown, silty, soft 10% sandstone, as above, with pyrite
9520-30	10% coal 80% shale 10% sandstone - as above, trace fluoresence. No cut
9530-40	10% shale - frosty white quartz, coarse to very coarse, sub-angular to angular, faint + fl. good cut. 20% sandstone - white, fine to medium grained, soft, faint to fair fluoresence, good gold yellow cut heavy brown res. 60% shale - brownish green, sub-rounded, silty 10% coal
9540-45	50% sand as above, faint fluoresence, good cut 10% sandstone 30% shale 10% coal

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J.R. Black
27/7/72
Nannygai-1

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9545-50
40% sand - as above, faint fl. godd cut.
10% sandstone as above
40% shale as above
10% coal as above

9550-60
10% sand
10% sandstone, trace fl. tr. cut
60% shale
20% coal

9560-70
50% sand. No show.
10% sandstone. No show.
40% shale

9570-80
70% sand
10% sandstone
20% shale

9580-90
90% sand - very coarse, pebbles, frosty white, godd porosity and permeability
Circ. spl.
10% shale

95[illegible]9600
10% sand
10% sandstone
40% siltstone - brown firm, slightly glauconitic
40% shale

9600-10
30% sand - white quartz, fair/coarse subrounded/subangular pyritic
10% sandstone
20% siltstone
40% shale

9610-20
10% sand fair/coarse
30% sandstone - brownish white, fine grained, friable, carbonaceous pyritic.
40% shale - brownish green, silty, carbonaceous
20% coal

9620-30
10% sand
10% sandstone
80% shale

96[illegible]40
10% sand
80% sandstone - brownish white, fine/very fine grained, silty, friable, dirty, carbonaceous,pyritic
10% shale

9640-60
10% sand
20% sandstone
70% shale - brownish green, silty carbonaceous

9660-70
10% sandstone
90% shale

9670-80
20% sandstone
80% shale

9680-90
90% coal
10% shale

9690-9710
20% siltstone, green/brown, sandy, pyritic, carbonaceous
80% shale

9710-20
90% coal
10% shale

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9720-30	40% shale 60% siltstone, brown, firm, sandy
9730-40	10% sand 40% shale 50% siltstone
9740-50	30% sandstone - pyritic 70% shale - silty
9750-60	40% sandstone 60% shale
9760-80	10% sand, pyritic 20% sandstone, carbonaceous 10% coal 60% shale, silty
9780-9800	10% sand 20% sandstone 70% shale
9800-10	30% sand - frosty white, quartz, coarse/pebbles angular, shows pyritic, good permeability and porosity 70% shale
9810-20	90% sand - few dark green grains 10% shale
9820-30	60% sand 40% shale
9830-40	80% sand 20% shale
9840-50	40% sand 60% shale

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9850-60	40% sand - very coarse cgl. some well rounded 60% shale
9860-70	90% coal - black, concoidal fracture, few leaf prints 10% shale
9870-80	90% coal 10% shale
9880-90	10% sand 70% coal 20% shale
9890-9900	10% coal 90% shale - brownish green medium soft to firm
9900-9905	50% coal 50% shale - as above

T.D. (8.40 a.m. 28/7/72)
Bumper-sub washed out (circulated bottoms up)

PALYNOLOGY

THE PALYNOLOGY OF NANNYGAI-1, GIPPSLAND BASIN

by

A.D. Partridge

Palaeontological Report 1972/15

October, 1972

THE PALYNOLOGY OF NANNYGAI-1

SUMMARY

The following spore-pollen zones are identified in Nannygai-1:

Zone	Depth in Feet & Rating	Age
Proteacidites tuberculatus	7070 (1) - 7110 (1)	Oligocene
Lower Nothofagidites asperus		
Subdivision indeterminant	2197.6 7210 (2) - 2203.7 7230 (2)	Middle-Late Eocene
A. Subdivision	2209.8 7250 (0) - 2220.7 7286 (1)	Middle Eocene
Proteacidites asperopolus	2223.2 7294 (2) - 2250.3 7385 (1)	Early Eocene
Upper Malvacipollis diversus	2281.7 7486 (1) - 2318.6 7607 (1)	Early Eocene
Lower Malvacipollis diversus	2373.7 7788 (1) - 2521.3 8272 (1)	Early Eocene
Lygistepollenites balmei	2549.6 8365 (1) - 3002.8 9857 (2) (see swc descriptions)	Paleocene

COMMENTS

The palynology indicates that there are time breaks associated with the lithological breaks near the top of the Latrobe Group. These are, firstly a distinct environmental change but probably only a short time break between 2220.7 7286 feet and 2223.2 7294 feet and two less clearly defined breaks between 2209.8 7250 feet and 2197.6 7210 feet, and 7210 feet and 7190 feet.

The L. balmei Zone (2549.65 — 3004.4 M 8365 to 9857 feet) is non-marine except for the incursion of marine dinoflagellates at the base of the section penetrated and near the top of the zone, where Wetzeliella homomorpha is present at 8437 feet. The samples contain good to poor spore-pollen assemblages. There is no T. longus zone assemblage present in this well in contrast to Gurnard-1 where a good T. longus Zone assemblage is present at 9657 feet.

In the Lower M. diversus Zone (2373.78 — 2521.3M 7788 to 8272 feet) dinoflagellate are a minor component of most samples, but are most abundant in the lowest sample. Although this zone is identified down to 8272 feet, the sample at 8196 feet contains very rare specimens of the pollen L. balmei. The last occurrence of this species, usually in association with a number of other species, is taken as the top of the

L. balmei Zone. In this case there are no supporting L. balmei Zone indicators and the total assemblages, from the samples at 8196 and 8272 feet, very strongly favour the Lower M. diversus age given. The lack of other L. balmei Zone species at 8196 feet would tend to preclude the explanations of reworking or contamination for the presence of L. balmei, and favour the explanation of an extension of an extension of the range of this species, perhaps in a particular environment.

2281.7 2348.6

The Upper M. diversus Zone is identified in two samples at 7486 feet and 7607 feet. Both samples contain predominantly spore-pollen assemblages with only rare dinoflagellates.

2223.2 – 2250

The P. asperopolus Zone (7294 to 7385 feet) has its base identified by the presence of the Wetzeliella thompsonae Dinoflagellate Zone at 7385 feet. This dinoflagellate zone is also present in the adjacent well, Gurnard-1 at 7323 feet. Neither well however contains the abundance of the species P. asperopolus and/or P. pachypolus used to define the P. asperopolus Zone, yet the Wetzeliella thompsonae Zone occurs in the same samples and has the same time duration as the abundance peak of these two pollen species in the Flounder and Tuna wells. The reason for the lack of this abundance in Nannygai-1 and Gurnard-1 is uncertain. The preferred interpretation is that the P. asperopolus /P. pachypolus abundance is in part environmentally controlled. This would account for its absence in this well, and in some of the more marginal wells in the Gippsland Basin and its presence only in Bass-2 in the Bass Basin. An alternative interpretation and certainly a contributing factor in this well is that the abundance is not apparent because of the poor recovery from the sample at 7385 feet, which also is dominated by dinoflagellates rather than spore-pollen. The section 7294 to 7348 feet is also referred to the P. asperopolus Zone, although not containing any P. asperopolus/P. pachypolus abundance. This is based on a) the presence of key P. asperopolus Zone species, particularly Myrtaceidites Tenuis and Intratriporopollenites notabilis and the lack of any change in the spore-pollen assemblage when compared with the sample at 7385 feet, and b) percentage counts of spore-pollen (Table-1) which indicate that there is no marked change in the Nothofagidites/H. harrisii ratio. There are some difficulties in dating this section and comparing it with other wells, and these are inherent in the definitions of the P. asperopolus and Lower Nothofagidites asperus Zone. The top of the P. asperopolus Zone is defined as the top of the P. asperopolus/P. pachypolus abundance while the base of the Lower N. asperus Zone is defined on a marked

increase in Nothofagidites. In most sections because of sampling gaps and slight disconformities these critera are in fact the same. In Nannygai-1 what we could, in effect be seeing, in the interval 7294 to 7348 feet, perhaps because of better sampling is a unit younger than the P. asperopolus/P. pachypolus abundance in the Marlin and Tuna areas yet older than the Nothofagidites/H. harrissii reversal. Still, the character of the spore-pollen assemblages in this unit are more similar to the P. asperopolus Zone. For this reason and because there is also a distinct spore-pollen assemblage change between 7294 and 7286 feet the top of the P. asperopolus Zone is taken at 7294 feet. Dinoflagellates are rare in the P. asperopolus Zone, indicating a fairly non-marine environment, with the exception of the sample at 7385 feet which gave a low yield of predominantly dinoflagellates.

2197.6 – 2220.7 M

The Lower N. asperus Zone (7210 to 7286 feet) contains some very good and well preserved assemblages. However not all the samples can be accurately dated as only limited material is available from individual samples. This is because half of each sidewall core was examined for foraminifera and also because, from previous experience, it is known that the type of lithology present in this interval generally only gives low spore-pollen recoveries per unit volume. The four sidewall cores between 7250 and 7286 feet contain dominantly dinoflagellate assemblages, which on the basis of the occurrence of the key dinoflagellates, Leptodinium maculatum, Deflandrea heterophylcta and Oligosphaeridum dictyoplokus, are correlated with the 'A' subdivision of the Lower N. asperus Zone in Turrum-1 (i.e. 6430-6680 feet). The sample at 7530 feet also may belong to this subzone, although no key forms were observed in the limited spore-pollen residue recovered. The sample at 7210 feet however, contains a very different assemblage which is composed mainly of spore-pollen and also contains a few dinoflagellates which are not found in the underlying section. At present it is not possible to give a more refined age dating than Lower N. asperus to this sample.

Re-examination of Gurnard-1 in light of the better sampling in this well, indicates 1) that the sample at 7272 feet correlates with the interval 7250 and 7286 feet in Nannygai-1, and 2) the sample at 7200 feet, contains some apparent contamination and can only be given a general age range of Lower N. asperus Zone to P. tuberculatus Zone.

2216 M 2209,8 M 2220 m

2185 M 2191

The two sidewall cores at 7170 and 7190 feet, gave low yield and poorly preserved assemblages which could not be assigned to a zone. Both samples did

however contain reworked L. balmei Zone fossils.

2154.3 – 2167.1

The P. tuberculatus Zone (7070-7110 feet) contains good assemblages, dominated by dinoflagellates, although the preservation is very poor.

TABLE-1

Relative abundance, expressed as a percentage of selective microfossil groups in Nannygai-1.

	Depth in Feet	Spores	Gymnosperms	Angiosperms	Nothofagidites	H. harrisii	P. pachypolus/ P. asperopolus	Dinoflagellates
P. asperopolus Zone	7294	12	4	52	13	15	3	0
	7303	9	9	47	21	10	3	3
	7317	4	6	53	16	14	3	0
	7328	8	8	59	14	8	0	3
	7348 2239	4	2	74	6	6	4	4
	7385	INSUFFICIENT SPECIMENS TO COUNT						
Upper M. diversus Zone	7486	INSUFFICIENT SPECIMENS TO COUNT						
	7607	3	1	68	13	12	0	3

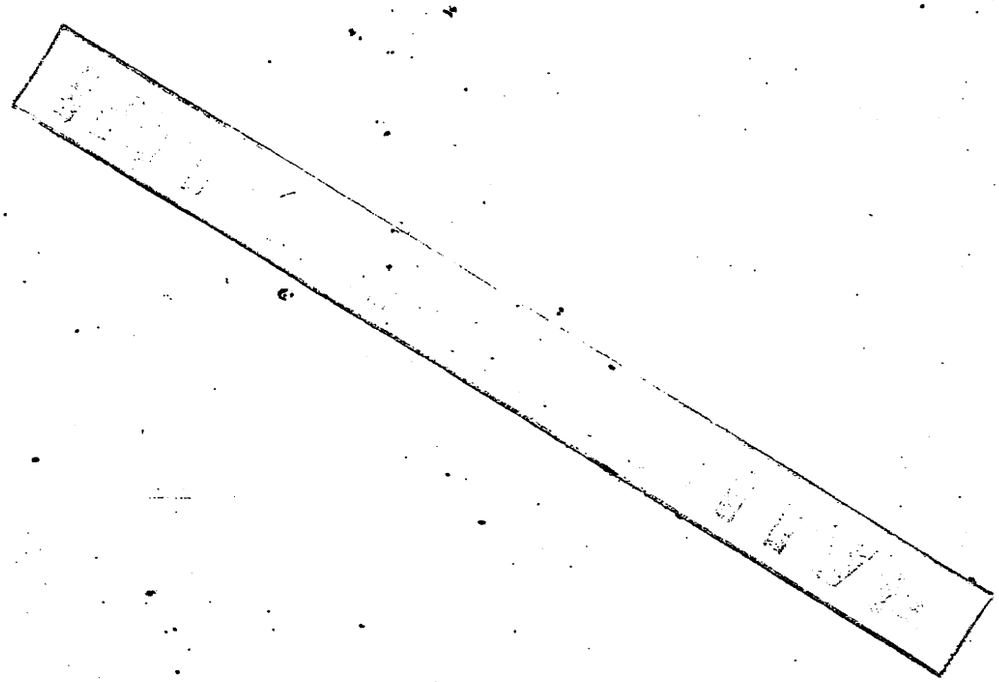
SAMPLES EXAMINED

Sample	Depth (in feet)	Zone
Cuttings	7020 - 30*	P. tuberculatus
SWC 55	7070 2154.9	P. tuberculatus
SWC 54	7090 *	P. tuberculatus
SWC 53	7110 *	P. tuberculatus
Cuttings	7100 - 10*	P. tuberculatus
SWC 50	7170 *	Indeterminant
SWC 49	7190 *	Indeterminant
Cuttings	7200 - 10*	Indeterminant
SWC 48	7210 *	Lower N. asperus Subdivision indet.
SWC 47	7230 2208.8	Lower N. asperus Subdivision indet.
SWC 46	7250 2209.8	Lower N. asperus A subdivision
SWC 45	7258 2212.2	Lower N. asperus A subdivision
SWC 44	7268 2215.2	Lower N. asperus A subdivision
SWC 43	7286 *	Lower N. asperus A subdivision
SWC 42	7294 2221.2	P. asperopolus
Core-1	7303 2225.95	P. asperopolus
Core-1	7317 2230.2	P. asperopolus
Core-1	7328 2233.57	P. asperopolus
SWC 40	7348 2239.6	P. asperopolus
SWC 39	7372 *	Barren
SWC 38	7385 2250.8	P. asperopolus/W. thompsonae
SWC 36	7486 *	Upper M. diversus
SWC 35	7607 *	Upper M. diversus
Cuttings	7660-80	Indeterminant
SWC 34	7691 *	Indeterminant
SWC 33	7788 * 2373.78	Lower M. diversus
SWC 32	7935 * 2418.58	Lower M. diversus
SWC 31	8050 2453.6	Lower M. diversus
Cuttings	8050 - 60	Lower M. diversus
SWC 24	8196 * 2498	Lower M. diversus
SWC 23	8272 * 2521.3	Lower M. diversus
SWC 22	8365	L. balmei
SWC 21	8437 *	L. balmei
SWC 20	8537	Barren

Sample	Depth (in feet)		Zone
SWC 19	8629		Barren
SWC 18	8754		L. balmei
SWC 16	8952		L. balmei
SWC 15	9086		L. balmei
SWC 14	9134		L. balmei
SWC 11	9430	*	L. balmei
SWC 10	9507		Indeterminant
SWC 3	9688	*	L. balmei
SWC 1	9857 2	*	L. balmei

↑ See SWC description.

* Dinoflagellates present.



PALAEONTOLOGY

NANNYGAI-1 - FORAMINIFERAL DISTRIBUTION

by D.J. Taylor

Sheets 1 - 3 - Foraminiferal & other faunal distribution with biostratigraphy.

Sheet 4 - Statistical & environmental log.

BIOSTRATIGRAPHIC LOG

		TOP	BOTTOM
Lower Miocene	ZONE F		6190
	ZONE G	6300	6400
	ZONE H-1	6500	6700
Oligocene	ZONE H-2	6800	6900
	ZONE I-1	7000	7090
	ZONE I-2	Not Recognised	
	ZONE J-1	7110	7170
	ZONE J-2	7190	7190
Eocene	ZONE K	7210	7210

BASE of FORAMINIFERAL SEQUENCE = 7210

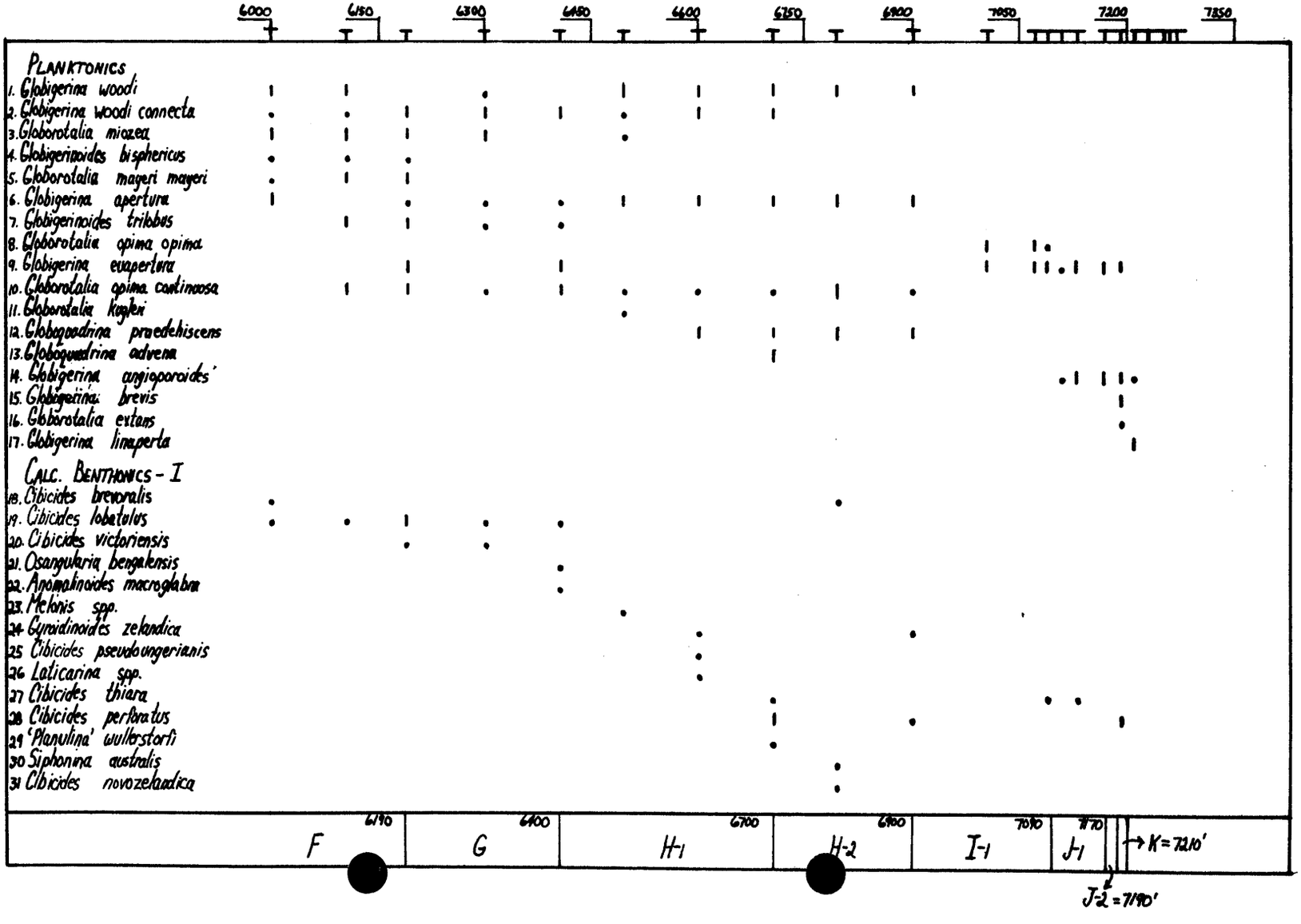
LEGEND FOR DISTRIBUTION SHEETS

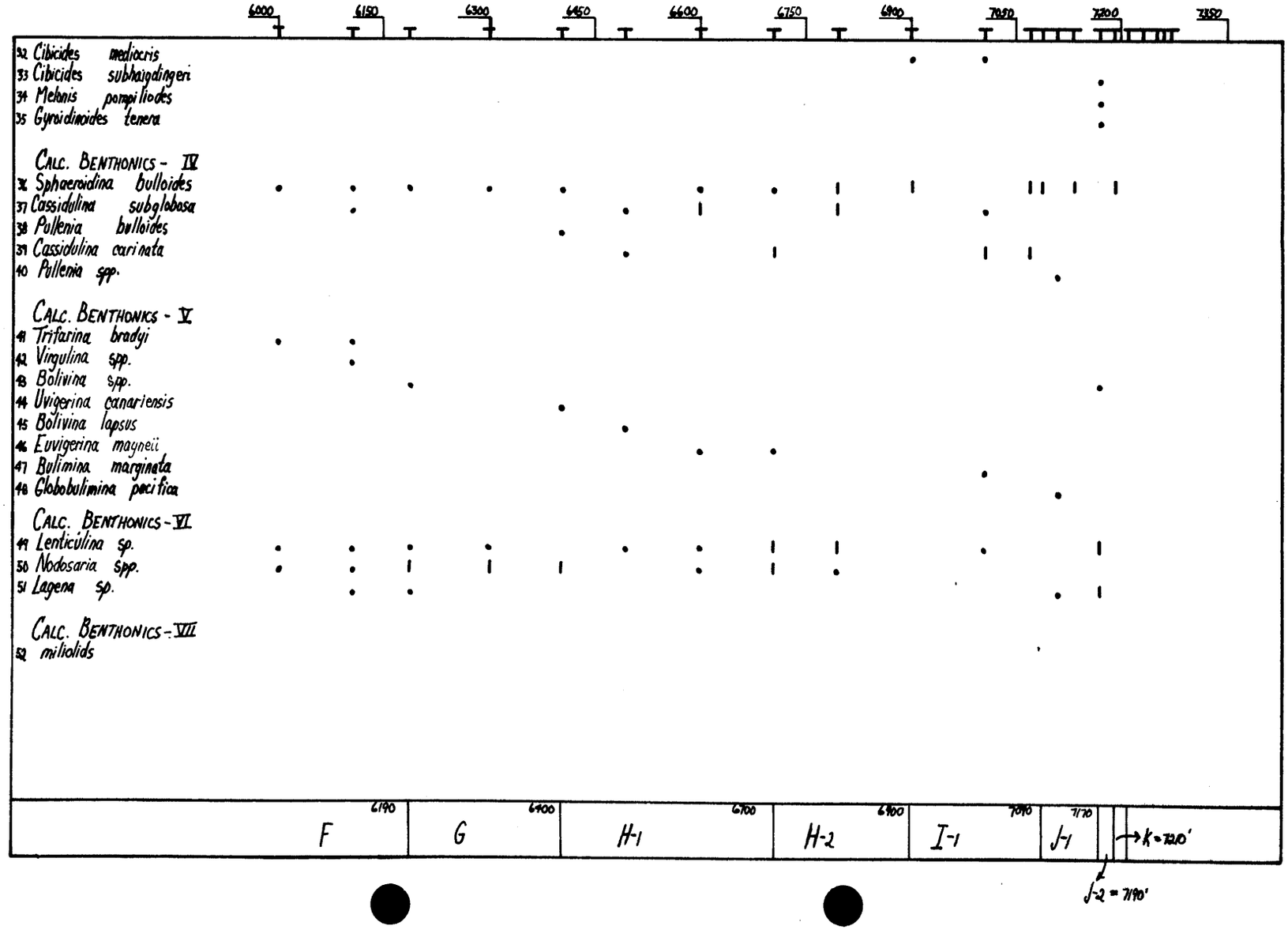
T = side wall cores at 6000; 6100; 6190; 6300; 6400; 6500; 6600; 6700; 6800; 6900; 7000; 7070; 7090; 7170; 7190; 7210; 7230 (N.F.F.); 7250 (N.F.F.); 7258 (N.F.F.); 7268 (N.F.F.).

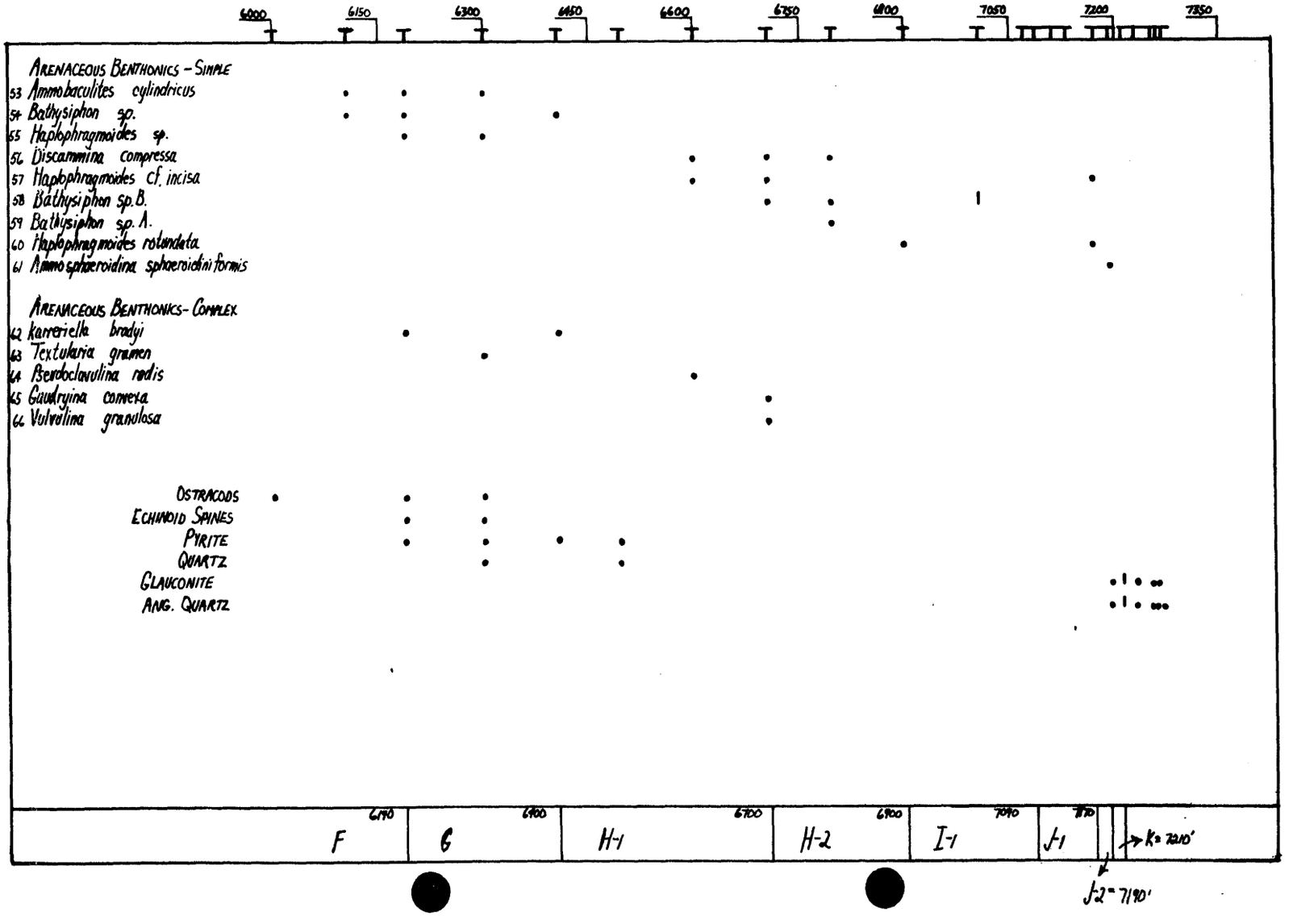
No conventional cores or rotary cuttings were submitted for examination

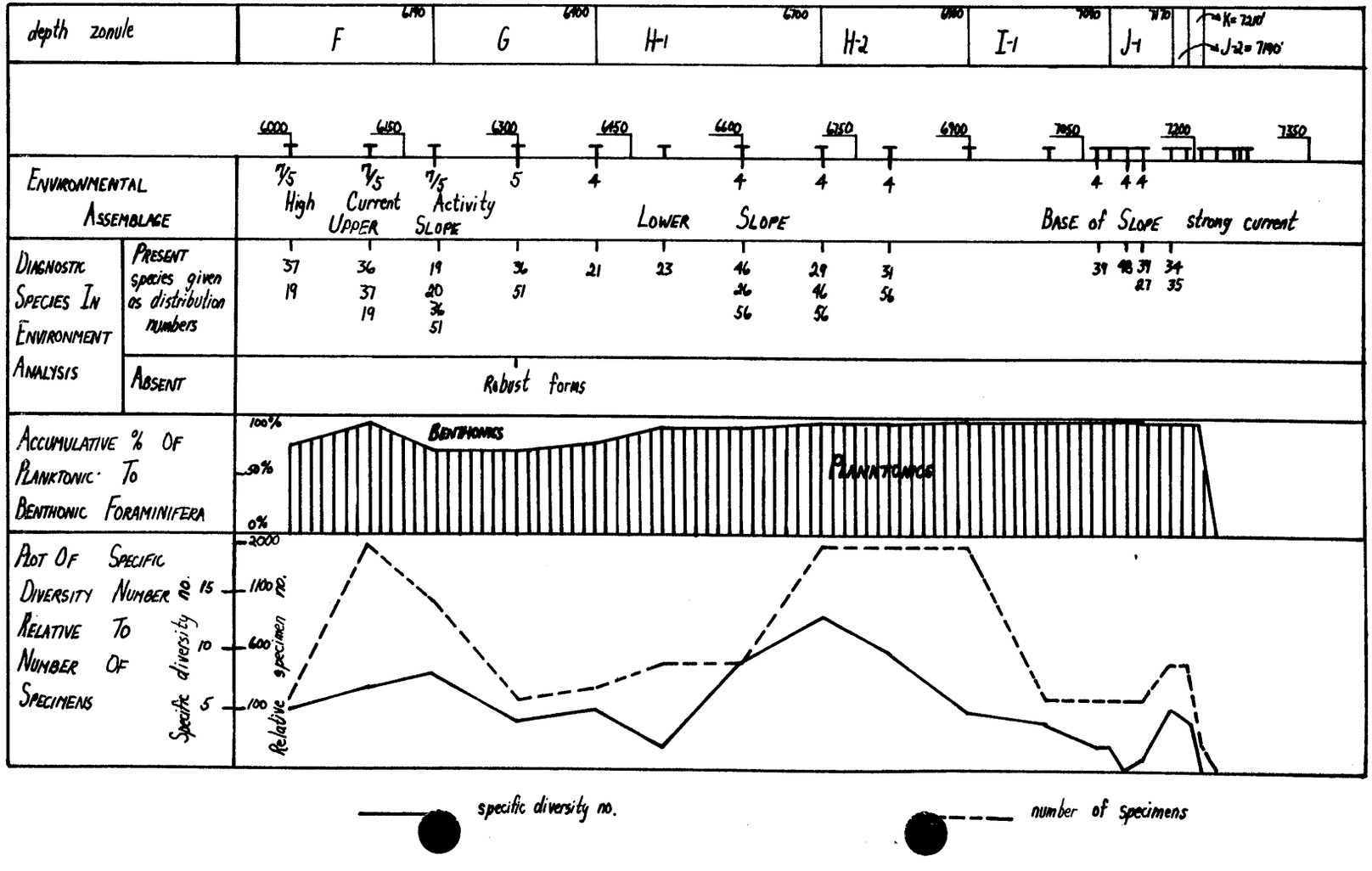
. = 1 - 20 specimens
1 = over 20 specimens

NANNYGAI-1


6000
6150
6300
6450
6600
6750
6900
7050
7200
7350
PLANKTONICS
1. Globigerina woodi
2. Globigerina woodi connecta
3. Globorotalia miozea
4. Globigerinoides bisphericus
5. Globorotalia mayeri mayeri
6. Globigerina apertura
7. Globigerinoides trilobus
8. Globorotalia opima opima
9. Globigerina euapertura
10. Globorotalia opima continuosa
11. Globorotalia kugleri
12. Globoquadrina praedehiscens
13. Globoquadrina advena
14. Globigerina angiporoides
15. Globigerina brevis
16. Globorotalia extans
17. Globigerina limaperta
CALC. BENTHONICS - I
18. Cibicides brevoralis
19. Cibicides lobatulus
20. Cibicides victoriensis
21. Osangularia bengalensis
22. Anomalinoides macroglabra
23. Melonis spp.
24. Gyroidinoides zelandica
25 Cibicides pseudoungerianis
26 Laticarina spp.
27 Cibicides thiara
28 Cibicides perforatus
29 'Planulina' wullerstorfi
30 Siphonina australis
31 Cibicides novozelandica
6790
6400
6700
6980
7010
7170
F
G
H-1
H-2
I-1
J-1
→ K = 7210'
J-2 = 7190'


6000
6150
6300
6450
6600
6750
6900
7050
7200
7350
32 Cibicides mediocris
33 Cibicides subhaigdingeri
34 Melonis pompiliodes
35 Gyroidinoides tenera
CALC. BENTHONICS - IV
36 Sphaeroidina bulloides
37 Cassidulina subglobosa
38 Pullenia bulloides
39 Cassidulina carinata
40 Pullenia spp.
CALC. BENTHONICS - V
41 Trifarina bradyi
42 Virgulina spp.
43 Bolivina spp.
44 Uvigerina canariensis
45 Bolivina lapsus
46 Euvigerina mayneii
47 Bulimina marginata
48 Globobulimina pacifica
CALC. BENTHONICS - VI
49 Lenticulina sp.
50 Nodosaria spp.
51 Lagena sp.
CALC. BENTHONICS - VII
52 miliolids
6190
F
6400
G
6700
H-1
6900
H-2
7090
I-1
7170
J-1
→ K = 7210'
J-2 = 7190'


6000
6150
6300
6450
6600
6750
6800
7050
7200
7350
ARENACEOUS BENTHONICS - SIMPLE
53 Ammobaculites cylindricus
54 Bathysiphon sp.
55 Haplophragmoides sp.
56 Discammina compressa
57 Haplophragmoides cf. incisa
58 Bathysiphon sp. B.
59 Bathysiphon sp. A.
60 Haplophragmoides rotundata
61 Ammosphaeroidina sphaeroidiniformis
ARENACEOUS BENTHONICS - COMPLEX
62 Karreriella bradyi
63 Textularia grumen
64 Pseudoclavulina rudis
65 Gaudryina convexa
66 Vulvulina granulosa
OSTRACODS
ECHINOID SPINES
PYRITE
QUARTZ
GLAUCONITE
ANG. QUARTZ
6490
6600
6700
6900
7090
7110
F
G
H-1
H-2
I-1
J-1
K = 7210'
J-2 = 7190'


depth zonule
F
G
H-1
H-2
I-1
J-1
K= 7200'
J-2= 7190'
6000
6150
6300
6450
6600
6750
6900
7050
7200
7350
Environmental Assemblage
7/5 High
7/5 Current
7/5 Activity
5
4
4
4
4
4
4
4
Upper Slope
Lower Slope
Base of Slope strong current
Diagnostic Species In Environment Analysis
Present species given as distribution numbers
37 19
36 37 19
19 20 36 51
36 51
21
23
46 26 56
29 46 56
31 56
39
48 27
31
34 35
Absent
Robust forms
Accumulative % Of Planktonic To Benthonic Foraminifera
100%
50%
0%
Benthonics
Planktonics
Plot Of Specific Diversity Number Relative To Number Of Specimens
2000
1100 no.
600
100
Relative specimen
Specific diversity
15
10
5
specific diversity no.
number of specimens

VITRINITE REFLECTANCE

Oil & Gas

Jack Dawe

RECD 22.4.86 KGO

Amoco Australia Petroleum Company
(Inc. in Delaware, U.S.A., with Limited Liability — Registered as a Foreign Company in Tasmania)

15 Blue Street, North Sydney
P.O. Box 126, North Sydney 2060
Phone (02) 957 4500
Telex AA23359
Facsimile (02) 922 4886

April 16, 1986

22 APR 1986

OIL and GAS DIVISION

The Director of Mines,
Department of Minerals and Energy,
East Tower, Princes Gate,
151 Flinders Street,
Melbourne. Vic. 3000

Dear Sir,

Re: Gippsland Basin Vitrinite Reflectance Measurements
MISC-AUP-141-L-310-SCB

In 1985 Amoco Australia Petroleum Company collected core and cutting samples from thirteen Gippsland Basin wells for vitrinite reflectance determinations. The following attachments are a summary of the work.

Yours faithfully,

NANNYGAI - 1

S.C. Bane
Exploration Manager

SCB/lrc

Attach.

Depth (ft)	Mean Maximum Reflectance (%)	Standard Deviation	Range	Number of Determinations
ALBACORE -1				
9380&9390	0.42	0.04	0.31-0.48	42
9720&2730	0.46	0.06	0.36-0.59	36
10070	0.46	0.04	0.36-0.55	39
10320	0.47	0.04	0.38-0.54	34
BARRACOUTA-3				
7310-7320	0.54	0.05	0.46-0.63	35
8590	0.60	0.08	0.43-0.71	35
9100-9120	0.62	0.10	0.41-0.80	41
9330-9360	0.64	0.10	0.43-0.93	36
9540-9560	0.73	0.05	0.63-0.84	33
BATFISH-1				
7560-7570	0.61	0.05	0.53-0.69	34
8170-8180	0.64	0.05	0.56-0.75	34
8640-8650	0.69	0.05	0.55-0.81	31
9170-9190	0.76	0.04	0.66-0.81	28
9430-9450	0.76	0.05	0.69-0.90	41
BONITA-1A				
9780-9790	0.54	0.06	0.46-0.68	36
10050	0.56	0.05	0.47-0.64	36
10280-10290	0.55	0.04	0.47-0.64	47
BREAM-2				
8070-8090	0.63	0.05	0.52-0.70	39
8380-8390	0.67	0.06	0.53-0.80	41
8933-8944	0.73	0.05	0.62-0.85	43
9730-9750	0.83	0.07	0.71-0.98	38
10638-10641	0.88	0.11	0.62-1.13	42

Depth (ft)	Mean Maximum Reflectance (%)	Standard Deviation	Range	Number of Determinations
COD-1				
7100-7120	0.63	0.06	0.53-0.81	41
8333-8339	0.59	0.05	0.47-0.67	34
9030-9060	0.75	0.06	0.61-0.85	32
9460-9470	0.77	0.06	0.61-0.86	41
FLOUNDER-1				
7430	0.44	0.05	0.36-0.56	39
8783-8795	0.64	0.04	0.56-0.77	36
9140	0.61	0.06	0.52-0.77	42
10395-10400	0.72	0.06	0.58-0.80	34
11350-11356	0.90	0.05	0.76-0.97	36
11676-11682	0.90	0.07	0.78-1.04	44
HALIBUT-1				
7888-7891	0.49	0.07	0.37-0.67	39
8450-8460	0.54	0.04	0.47-0.61	31
9250-9260	0.57	0.06	0.46-0.66	43
9630-9640	0.61	0.04	0.54-0.69	35
9870-9880	0.63	0.06	0.47-0.75	52
MACKEREL-1				
8760-8780	0.63	0.05	0.52-0.71	31
9630-9650	0.66	0.05	0.69-0.76	25
9870-9890	0.65	0.02	0.60-0.73	28

Depth (ft)	Mean Maximum Reflectance (%)	Standard Deviation	Range	Number of Determinations
MARLIN-1				
7070-7080	0.65	0.08	0.52-0.80	32
7497-7501	0.65	0.04	0.54-0.72	38
7780-7800	0.67	0.09	0.47-0.88	39
8230-8240	0.71	0.07	0.64-0.79	4
8455-8461	0.70	0.06	0.56-0.79	32
NANNYGAI-1				
1365.2 – 2 3378 7760-7670	0.052	0.07	0.39-0.65	33
2535.9 – 2542.0 8320-8340	0.50	0.05	0.42-0.65	32
2287 – 2886.4 9450-9470	0.64	0.04	0.57-0.71	35
3005.3 – 3011.4 9860-9880	0.64	0.06	0.51-0.75	31
SALMON-1				
7670-7690	0.50	0.06	0.38-0.64	35
8030-8050	0.56	0.05	0.45-0.67	37
8860	0.60	0.05	0.45-0.67	33
9250-9260	0.64	0.06	0.54-0.79	36
9856-9862	0.80	0.05	0.68-0.87	37
SNAPPER-1				
7280-7300	0.56	0.06	0.43-0.69	37
7754-7760	0.56	0.09	0.38-0.73	38
9254-9257	0.68	0.03	0.60-0.72	33
9900-9903	0.86	0.10	0.62-0.96	17
10140-10200	0.81	0.10	0.58-1.01	31
10495-10507	0.99	0.06	0.81-1.06	35

PE603554

This is an enclosure indicator page.
The enclosure PE603554 is enclosed within the container PE906176 at this location in this document.

The enclosure PE603554 has the following characteristics:

ITEM_BARCODE	= PE603554
CONTAINER_BARCODE	= PE906176
NAME	= Well Completion Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= COMPLETION_LOG
DESCRIPTION	= Well Completion Log (enclosure from Well Summary) for Nannygai-1
REMARKS	=
DATE_CREATED	= 3/08/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603555

This is an enclosure indicator page.
The enclosure PE603555 is enclosed within the container PE906176 at this location in this document.

The enclosure PE603555 has the following characteristics:

ITEM_BARCODE	= PE603555
CONTAINER_BARCODE	= PE906176
NAME	= Mud Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Baroid Mud Log (enclosure from Well Summary) for Nannygai-1
REMARKS	=
DATE_CREATED	= 28/07/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603556

This is an enclosure indicator page.
The enclosure PE603556 is enclosed within the container PE906176 at this location in this document.

The enclosure PE603556 has the following characteristics:

ITEM_BARCODE	= PE603556
CONTAINER_BARCODE	= PE906176
NAME	= Dipmeter Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Dipmeter Log Interpretation (enclosure from Well Summary) for Nannygai-1
REMARKS	=
DATE_CREATED	= 8/08/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	= DATA ANALYSIS
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603557

This is an enclosure indicator page.
The enclosure PE603557 is enclosed within the container PE906176 at this location in this document.

The enclosure PE603557 has the following characteristics:

ITEM_BARCODE	= PE603557
CONTAINER_BARCODE	= PE906176
NAME	= Drill Data Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Drill Data Log for Nannygai-1 (containing ""d"" and ""Kf"" data), enclosure from Well Summary
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE906177

This is an enclosure indicator page.
The enclosure PE906177 is enclosed within the container PE906176 at this location in this document.

The enclosure PE906177 has the following characteristics:

ITEM_BARCODE	= PE906177
CONTAINER_BARCODE	= PE906176
NAME	= Time-Depth Curve
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= Time-Depth Curve (interpretative), enclosure from Well Summary for Nannygai-1
REMARKS	=
DATE_CREATED	= 30/07/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE906997

This is an enclosure indicator page.
The enclosure PE906997 is enclosed within the container PE906176 at this location in this document.

The enclosure PE906997 has the following characteristics:

ITEM_BARCODE	= PE906997
CONTAINER_BARCODE	= PE906176
NAME	= Seismic Section
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= Seismic Section, line G71A-473A (enclosure from WCR) for Nannygai-1
REMARKS	= Also has clear interpretive overlay
DATE_CREATED	= 30/06/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906998

This is an enclosure indicator page.
The enclosure PE906998 is enclosed within the container PE906176 at this location in this document.

The enclosure PE906998 has the following characteristics:

ITEM_BARCODE	= PE906998
CONTAINER_BARCODE	= PE906176
NAME	= Seismic Section
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= Seismic Section, line G71B-552 (enclosure from WCR) for Nannygai-1
REMARKS	= Also has clear interpretive overlay
DATE_CREATED	= 30/06/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906999

This is an enclosure indicator page.
The enclosure PE906999 is enclosed within the container PE906176 at this location in this document.

The enclosure PE906999 has the following characteristics:

ITEM_BARCODE	= PE906999
CONTAINER_BARCODE	= PE906176
NAME	= Seismic Section
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= Seismic Section, line G71B-551 (enclosure from WCR) for Nannygai-1
REMARKS	= Also has clear interpretive overlay
DATE_CREATED	= 31/12/71
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	= GEOPHYSICAL SERVICE INTERNATIONAL
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604559

This is an enclosure indicator page.
The enclosure PE604559 is enclosed within the container PE906176 at this location in this document.

The enclosure PE604559 has the following characteristics:

ITEM_BARCODE	= PE604559
CONTAINER_BARCODE	= PE906176
NAME	= Mud Log (ADT)
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= ADT Mud Log (enclosure from WCR) for Nannygai-1
REMARKS	= this is one of 2 mudlogs in the report, however, it has a different scale
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE907000

This is an enclosure indicator page.
The enclosure PE907000 is enclosed within the container PE906176 at this location in this document.

The enclosure PE907000 has the following characteristics:

ITEM_BARCODE	= PE907000
CONTAINER_BARCODE	= PE906176
NAME	= Geological Cross-Section A-A'
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= CROSS_SECTION
DESCRIPTION	= Geological Cross Section A-A' (enclosure from WCR) for Nannygai-1
REMARKS	=
DATE_CREATED	= 30/06/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE907002

This is an enclosure indicator page.
The enclosure PE907002 is enclosed within the container PE906176 at this location in this document.

The enclosure PE907002 has the following characteristics:

ITEM_BARCODE	= PE907002
CONTAINER_BARCODE	= PE906176
NAME	= Isochron Map
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= SEISMIC
SUBTYPE	= ISOCHRON_MAP
DESCRIPTION	= Isochron Map, Lwr. Oligocene-Top of Latrobe Group, (enclosure from WCR) for Nannygai-1
REMARKS	=
DATE_CREATED	= 30/04/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE907001

This is an enclosure indicator page.
The enclosure PE907001 is enclosed within the container PE906176 at this location in this document.

The enclosure PE907001 has the following characteristics:

ITEM_BARCODE	= PE907001
CONTAINER_BARCODE	= PE906176
NAME	= Structure Map
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= SEISMIC
SUBTYPE	= HRZN_CNTR_MAP
DESCRIPTION	= Stucture Map, Top of Latrobe Group, (enclosure from WCR) for Nannygai-1
REMARKS	=
DATE_CREATED	= 30/04/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE907003

This is an enclosure indicator page.
The enclosure PE907003 is enclosed within the container PE906176 at this location in this document.

The enclosure PE907003 has the following characteristics:

ITEM_BARCODE	= PE907003
CONTAINER_BARCODE	= PE906176
NAME	= Structure Map
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= SEISMIC
SUBTYPE	= HRZN_CNTR_MAP
DESCRIPTION	= Stucture Map, Mid Paleocene Stuctural Marker, (enclosure from WCR) for Nannygai-1
REMARKS	=
DATE_CREATED	= 30/04/72
DATE_RECEIVED	=
W_NO	= W648
WELL_NAME	= NANNYGAI-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)