WELL SUMMARY

PIKE-1 W671

UNSUCCESSFUL N.F.W.C.

SPUD. 16-7-73.
COMP. 25-7-73
T.D 7000'.

38° 46' 29.954"
147° 57' 00.226"
W.D. 242' KB. 32'
GLOMAR CONCEPTION

PIKE-1. ESSO VIC/P2

671

ISF/S	Run 1. 2"&5"	2744-6967 + TRANSPARENCY
FDC/CNL/GR	" 1. " "	2744 GR/CAL 5800 FDC — 6973 + TRANSPARENCIES
HDT	" 1. 10"	5900'-6972' + TRANSPARENCY.
DIP LOG INTERPRETATION	2".	5900'-6972' + "
" " "	5"	" " + TRANSPARENCY
BARIOD MUD LOG.		854-7000' + TRANSPARENCY
"d" EXPONENT		4500-7000' + " (3)
A.D.T.		" "

CORE 1 OFF. R.
" DESCRIPTION. N°1. 6018-27.
CUTTING " . 882'-7000'.
S.W.C. Shot 30. Rec 29.
" DESCRIPTIONS 1-30. 3350'-6936'.
COMPLETION REPORT
CORE ANALYSIS RESULTS BY B.M.R.
TIME DEPTH CURVE. * PALYNOLOGY SHEET BY W.K. HARRIS
WELL COMPLETION LOG.
SEISMIC SECTION G71B. 546.
" " ETG6. 71A.
PALAEONTOLOGICAL DATA SUMMARY by D. TAYLOR.
PALYNOLOGIC REPORT. by L. STOVER.
STRUCTURAL MAP. TOP OF LATROBE GROUP. C.R.
" " " " " " .
" " . CROSS SECTION A-A' C.R.
" " " " " " .
" " " " " B-B'
" " . BASE OF LOWER WEDGE (MID M. DIVERSUS)
" " . TOP OF ANOMALOUS ZONE.
" " . BASE OF UPPER SAND FACIES.
ISOPACH OF UPPER SAND FACIES.
RESIDUAL STRUCTURE MAP. TOP OF ANOMALOUS ZONE.
WEEKLY REPORTS.
PALYNOLOGY REPORT REVISION BY A.D. PARTRIDGE.
WELL COMPLETION LOG. 2744'-6967'. 2" SCALE + TRANSPARENCY.
AUST. [illegible]

28 pages

ESSO AUSTRALIA LTD.

WELL COMPLETION REPORT

PIKE-1

J. Black

October, 1973.

PIKE-1 WELL COMPLETION REPORT

CONTENTS

SECTION

I	Well Data Record
II	Not Applicable
III	Not Applicable
IV	Casing Record
V	Cement Record
VI	Not Applicable
VII	Samples, Conventional Cores, CST Record
VIII	Wireline Logs, Surveys & F.I.T. Record
IX	Formation/Zone Tops
X	Geologic Analysis
	Geological Interpretation
	Other Reports

ATTACHMENTS

Sample Descriptions

Core Description

Sidewall Core Descriptions

Palaeontologic Data Summary - D.J. Taylor

Palynologic Report - L. Stover

PLATES

I	Well Completion Log
II	Pike Prospect Top of Latrobe Structure Map (Post Drill)
III	Time-Depth Curve
IV	Geologic Cross Section A-A'

ENCLOSURES

Rock Log (MUD LOG)

A.D.T. Log (NEUTRON DENSITY AND SONIC/ISF LOGS)

ESSO STANDARD OIL (AUSTRALIA) LTD.

671

COMPLETION REPORT

1

WELL DATA RECORD

Date 10.10.73

LOCATION

WELL NAME	STATE	PERMIT or LICENCE	GEOLOGICAL BASIN	FIELD
PIKE 1	VIC.	VIC/P.2	GIPPSLAND	

CO-ORDINATES	MAP PROJECTION	GEOGRAPHICAL DESCRIPTION
Latitude: 38° 46' 29.054"S X 582,541E Longitude: 147° 57' 00.726"E Y 5,707,777N	AMG-AGD ZONE 55	10 miles NW MORAY-1 12 " SSW GURNARD-1

ELEVATIONS & DEPTHS

ELEVATIONS	WATER DEPTH	TOTAL DEPTH	Avg.Angle
MSL KB 32' RT 31' Braden Head Top Deck Platform	242'	M.D. 7000' T.V.D.	STRAIGHT HOLE
	PLUG BACK DEPTH	REASONS FOR P.B.	
	404'	ABANDONED HOLE	

DATES

MOVE IN	RIG UP	SPUDDED
14.7.73	15.7.73	16.7.73
RIG DOWN COMPLETE	RIG RELEASED	PROD.UNIT - Start Rigging Up
25.7.73	25.7.73	-
PROD.UNIT - Rig Down Complete		I.P. ESTABLISHED
-		-

MISCELLANEOUS

OPERATOR	PERMITTEE or LICENCEE	ESSO INTEREST	OTHER INTEREST
ESSO AUSTRALIA LTD	Hematite Petroleum Pty Ltd ~~B.H.P.~~	WELL 100%	NIL

CONTRACTOR	RIG NAME	EQUIPMENT TYPE
GLOBAL MARINE A/ASIA PTY LTD	GLOMAR CONCEPTION	FLOATING D/V

TOTAL RIG DAYS	DRILLING AFE NO.	COMPLETION NO.	TYPE COMPLETION
10.89	233-011		

LAHEE WELL CLASSIFICATION	Before Drilling	NEW FIELD WILDCAT
	After Drilling	UNSUCCESSFUL NFW

J.R. BLACK
Geologist

X 2

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

IV CASING - LINER - TUBING RECORD

Type	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
Conductor	KB ELEVATION ABOVE CASING HEAD					265.00	265.00
	20"/30" PILE JOINT					30.55	295.55
	20"	91.5#	X-52	JV	10 + FLOAT SHOE	366.85	622.40
Surface	KB ELEVATION ABOVE HANGER					270.00	270.00
	10-3/4"	40.5#	J-55	BUTT	60 + FLOAT SHOE & FLOAT COLLAR	2473.08	2473.08
Intermediate							
	PILE JOINT & WELL HEAD RECOVERED						

V CEMENT RECORD

String	20" CONDUCTOR	10-3/4 SURFACE CASING	
Type of Cement	1100 SX AUSTN + 350 SX AUSTN + 2% $CaCl_2$	450 SX AUSTN	
Number of FT^3	1711	531	
Average weight of slurry	15.6 ppg	15.6 ppg	
Cement Top	Sea Floor	1500' est.	
Casing Tested with	500 psi	1500 psi	
Number of Centralizers	6	10	
Number of Scratchers	-	-	
Stage Collar etc.	-	-	
Remarks		TESTED FORMATION. HELD AT 13.3 ppg equiv.	

Engineer

WELL PIKE 1 X 4

VI

SUBSURFACE COMPLETION EQUIPMENT

DATE COMPLETED ______________

Schematic	Equipment Description	Length	Depth

WELL PIKE 1

VII SAMPLES, CONVENTIONAL CORES, SW CORES

INTERVAL	TYPE	RECOVERED	INTERVAL	TYPE	RECOVERED
1. DITCH					
870-5860'	WASH & DRY	30' SPACING			
5860-6160'	"	10' "			
6160-6700'	"	20' "			
6700-7000'	"	10' "			
870-70000'	TINNED	100' "			
2. CORE #1					
6018-6033' (ADJ. UP 9' TO FIT LOG)	CONVENTIONAL	9' (60%)			
3. SCHLUMBERGER					
3350-6936'	SIDEWALL CORES	29 of 30			

VIII WIRELINE LOGS AND SURVEYS (Incl. FIT)

Type & Scale	From	To	Type & Scale	From	To
ISF/SONIC 2" & 5"	6967	2744'			
FDC/CNL/GR 2" & 5"	6974	5800' FDC/CNL			
	6957	2744' GR			
HDT	6972	5900'			
VELOCITY SURVEY (7 LEVELS)	6930	2854'			
CST RECOV. 29 OF 30	6936	3350'			

J.R. BLACK
Geologist

IX FORMATION TOPS/Zones

NAME	Tops M.D.	Tops Sub-sea	Gross Interval (ft)	Net Pay (ft). Gas	Net Pay (ft). Oil	REMARKS
1. GIPPSLAND	SEA FLOOR	-242'	4039'			
2. LAKES ENTRANCE	4313'	-4281'	1685'			
3. MID MIOCENE SEISMIC MARKER	4781'	-4749'				
4. OLIGOCENE SEISMIC MARKER	5287'	-5255'				
5. TOP LATROBE (COARSE CLASTICS)	5998'	-5966'	1002'			
6. LATE EOCENE	5998'	-5966'	449'			
7. EARLY "	6447'	-6415'	217'			
8. PALEOCENE	6664'	-6632'	336'			
9. T.D.	7000'	-6968'				

X GEOLOGIC ANALYSIS (Pre Drilling prognosis Vs actual results)

PREDRILL

The Pike prospect was interpreted to be a stratigraphically controlled trap within Latrobe Group sediments of Eocene age. Changes in frequency and amplitude characteristics within two stacked sedimentary wedges were interpreted to indicate a facies change to sandstones within a shale sequence. A nearshore offshore-bar depositional environment was proposed for these sandstones. The critical updip and lateral seals for these reservoirs would be provided by the impermeable sediments of offshore and paralic facies. A top seal would be provided by the calcareous shales and marls of the Gurnard and Lakes Entrance Formations.

POSTDRILL

Pike-1 penetrated a Latrobe section which was found to be sandier than expected in the roposed depositional environment. The absence of significant hydrocarbons is considered due to the lack of an updip and/or lateral seal in the southwest part of the prospect. This seal was critical for hydrocarbon accumulation as no structural closure is present.

The sand, rather than having been deposited as an offshore-bar in a nearshore environment as previously interpreted, appears to have been deposited in a beach/shoreface situation. This is borne out by its well rounded, well sorted nature together with the lack of shaley or silty laminae.

Updip communication with other sand bodies is highly likely in such a case and explains the lack of hydrocarbons.

Initially, two sand wedges were anticipated but drilling results show that only the higher sand is present.

Conflict exists between seismic correlations in the area and palaeontologic evidence. The thick target sand is unfossiliferous and the samples at 6647' and 6623' are from the Upper M.diversus zone (Early Eocene) whereas the mid M.diversus seismic marker is picked at the base of the sand, suggesting that the section below it is Lower M.diversus in age. Further work is needed to resolve this problem.

J.R. BLACK

SAMPLE DESCRIPTIONS - PIKE-1

J. Black
July 18, 1973

20" Conductor set at 662'. Drilled out and twisted off bumper sub. at 882'. Top of fish inside casing. Washed down with washover pipe. Recovered fish with overshot. Drilled 13-3/4" hole to run 10-3/4" casing.

	%	
882-1200	100	Mostly shell fragments (coquina) and light grey dense to crystaline limestone, some silty.
1200-1290	100	As above with some very sandy limestone, trace shells
1290-1375	100	Limestone. Very sandy. Friable, soft, trace shell fragments.
1375-1500	100	Marl - light grey, very soft, silty.
1500-1770	100	Marl - light grey, very calcareous, soft, argillaceous, but not silty.
1700-2100	100	Marl - light grey, very soft, calcareous, argillaceous.
2190-2250	100	Marl - as above
2250-2510	100	Limestone - grey, crystaline, silty, dirty, firm, trace fossils.
2510-2800	100	Marl - light grey, very soft, calcareous, argillaceous.

July 20 - Set and cemented 10-3/4" casing at 2743'. Drilled out with 9-7/8" XDG

2800-2820		Cement cavings
2820-2850	60	Cement cavings
	40	Marl - light grey, soft
2850-2880	60	Cement cavings
	40	Marl
2880-2910	40	Cement cavings
	60	Marl
2910-2940	30	Cement Cavings
	70	Marl
2940-3000	100	Marl - light grey, very soft, argillaceous, sticky
3000-3270	100	Marl - light grey, firmer than above, sandy in places.
3270-3450	100	Mudstone, light grey, sticky, argillaceous
3450-3660	100	Mudstone as above, very soft, sticky with trace sand grains
3660-4020	100	Mudstone, as above, very calcareous with increasing number of fossils (forams)
4020-4110	100	Mudstone - as above
4110-4380	100	Mudstone - light grey, very calcareous, sticky, fossiliferous, argillaceous
4380-4530	100	Mudstone - as above
4530-4590 P.O. to CB at 4574'	100	Mudstone as above
4590-4680	100	Shale - medium grey, firm, calcareous, blocky fracture, fissile, trace glauconite, trace light grey hard limestone, trace pyrite, trace fossils.

	%	
4680-4740	100	Mudstone - light grey, argillaceous, very sticky, plastic, very calcareous
4740-5100	100	Shale - medium grey, firm to moderately firm, fissile, calcareous, very fossiliferous (small forams), trace glauconite, trace pyrite.
5100-5160	100	Shale - as above
CB at 5195' (Lost Pump Press)		Trip gas 65 units
5160-5350	100	Shale - medium, grey, slightly silty, trace glauconite, calcareous, trace light brown, soft, siltstone.
5350-5470	100	Shale - light grey, very silty, moderately firm, very fossiliferous (small forams), trace pyrite
5470-5530	100	Shale - as above but firmer with trace glauconite
5530-5680	100	Shale - grey and green grey, firm,trace tan dolomite
5680-5710	100	Shale - grey and green grey, very silty, very fossiliferous, firm, fissile, some splintery fracture.
5710-5830	100	Shale - light brown and grey, firm, fissile, slightly silty
5830-5910	90	Shale - as above
	10	Siltstone - light brown, moderately hard to friable, trace glauconite, trace pyrite
5910-5940	100	Shale
5940-5970	90	Shale - very fossiliferous
	10	Siltstone as above, trace glauconite, trace pyrite
5970-5980	80	Shale
	20	Siltstone
5980-5990	70	Shale
	30	Siltstone, slight increase in glauconite.
5990-6000	20	Shale
	80	Siltstone - brown, moderately firm to friable, very glauconitic.
6000-6005	80	Siltstone
	20	Shale
Drilling break at 6009' Top Latrobe		
6005-6010	80	Siltstone - increase in glauconite, trace reworked quartz, Latrobe sandstone.
6010-6018 Top Latrobe 6009/	90	Sandstone - frosty white, well rounded, unconsolidated, coarse grained quartz, well sorted, trace pyrite. No show.
	10	Shale
Core bbl		Core # 1 6018-6033. Cut 15' Recov. 9'
Core # 1		Sandstone - as above
6033-6040	20	Sand as above
	80	Shale as above (cavings)
6040-6340	100	Sandstone - frosty white, well rounded, unconsolidated, well rounded, very coarse to coarse grained quartz, well sorted, excellent porosity and permeability, rare pinkish white quartz grains, rare pieces of shell fragments.

..3/

	%	
40-6440	100	Sandstone - frosty white with few pink quartz grains, unconsolidated coarse to very coarse subangular to well rounded, excellent porosity and permeability, trace pyrite.
6440-6460	100	Sandstone - as above, but medium to very coarse, rounded to subrounded with abundant pyrite.
6460-6480 M. DIV. TOP	100	Sandstone - as above with 10% brown red iron stained angular quartz grains, unconsolidated coarse quartz, unconformity? TOP M. DIVERSUS.
6480-6500	100	Sandstone - mostly bright red and yellow iron stained coarse subangular to angular quartz. Weathered. 20% coarse frosty white rounded quartz as above, abundant pyrite, trace glauconite.
6500-6520	100	Sandstone - as above. 90% Iron stained 10% white, very pyritic.
6520-6540	100	Sandstone - as above. 90% Iron stained red and yellow.
6540-6560	90	Sandstone - yellow iron staining, fine to very coarse, subangular to subrounded quartz, poorly sorted, good porosity and permeability.
	10	Siltstone - green, glauconitic, friable, sandy.
6560-6580	90	Sandstone - abundant free glauconite
	10	Siltstone - very glauconitic
6580-6600	90	Sandstone - mostly white (frosty & clear white), with some yellow stained quartz
	10	Siltstone
6600-6620	90	Sandstone, fine to very coarse white quartz, very little Iron staining , free glauconite and pyrite.
	10	Siltstone
6620-6640	90	Sandstone, clear and frosty white, medium to very coarse, unconsolidated, subangular to subrounded, pyritic with trace glauconite, trace detrital coal.
	10	Siltstone
6640-6650	70	Sandstone with pyrite
	30	Coal
6650-6660	60	Sandstone as above with pyrite.
	40	Shale - brown and grey, slightly carbonaceous, silty
6660-6680	100	Sandstone, white with some yellow stained quartz, some carbon ? stain.
6680-6700	90	Sandstone - white, coarse to very coarse, unconsolidated.
	10	Shale
6700-6710	70	Sandstone, white, medium to very coarse, trace glauconite, abundant pyrite.
	30	Shale - tan and grey, slightly silty
6710-6720	80	Sandstone - white, medium to very coarse, unconsolidated.
	20	Shale - grey and tan, some carbonaceous.
6720-6730	90	Sandstone
	10	Shale
6730-6740	100	Sandstone - white, clear and frosty, medium to coarse, unconsolidated, subrounded to subangular, abundant pyrite and free glauconite.

	%	
6740-6750	100	Sandstone - white, coarse to very coarse with pyrite and glauconite.
6750-6760	80	Sandstone as above with pyrite and glauconite.
	20	Shale - brown and grey, slightly carbonaceous, silty.
6760-6770	60	Sandstone - as above, with pyrite and trace glauconite
	40	Shale - as above with trace coal
6770-6780	40	Sandstone - as above with pyrite and glauconite.
	60	Shale - mostly brown silty carbonaceous, with some grey.
6780-6790	70	Sandstone as above
	20	Shale as above
	10	Coal as above
6790-6800	90	Sandstone - as above but medium to very coarse, trace pyrite and glauconite
	10	Shale
6800-6820	100	Sandstone with trace coal
6820-6830	100	Sandstone - frosty white, subangular to subrounded, coarse to very coarse, unconsolidated quartz, trace pyrite.
6830-6840	100	Sandstone as above
6840-6850	100	Sandstone as above
6850-6870	100	Sandstone as above
6870-6880	70	Sandstone
	30	Siltstone - brownish grey, friable, sandy, slightly glauconitic
6880-6900	90	Sandstone, white, coarse to very coarse, subangular to rounded, unconsolidated quartz.
	10	Siltstone
6900-6910	90	Sandstone
	10	Shale - grey, trace glauconite, slightly calcareous, silty in places.
6910-6920	90	Sandstone, white, coarse to very coarse, trace pyrite, unconsolidated quartz.
	10	Shale - grey, slightly calcareous, firm.
6920-6930	100	Sandstone as above
6930-6940	60	Sandstone as above
	40	Shale - light brown, carbonaceous, fissile, moderately firm.
6940-6950	50	Sandstone as above
	50	Shale as above
6950-6960	100	Sandstone - white, frosty, coarse to very coarse, unconsolidated, subangular to subrounded, quartz - pyritic.
6960-6970	100	Sandstone - as above but coarse to pebbly.
6970-6980	100	Sandstone as above
6980-6990	100	Sandstone as above, but chunking size pebbles.
6990-7000	100	Sandstone as above

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 1

WELL: PIKE #1

Interval Cored 6018-6033 ft., Cut 15 ft., Recovered 9 ft., (60 %) Fm. LATROBE

Bit Type C-22 FD , Bit Size 8 15/32 x 4 in., Desc. by J. BLACK Date 22 July 1973

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0			6018-27'	SANDSTONE - FROSTY WHITE, WELL RND., WELL SORTED, UNCONSOL., CRSE/V.CRSE QTZ, EXCELL POR & PERM., NO SHOW
10				
20	CORED AT 1 MIN/FT W/ 180 PSI PUMP PRESS.			
25				
30				
33				

REMARKS:

BBL. JAMMED. ACTUAL RECOV. WAS 100% BUT 40% WASHED AWAY WHEN TRAPPED FLUID ABOVE CORE ESCAPED AS UPPER PART OF CORE WAS REMOVED FROM BBL.

ESSO AUSTRALIA LTD.
SIDEWALL CORE DESCRIPTIONS

WELL PIKE-1 PAGE 1 OF 2
GEOLOGIST J. BLACK ATT 30 REC 29
SERVICE CO SCHLUMB. DATE 24.7.73
IES RUN NO 1 SWC RUN NO 1

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	6936	1"	Ss	Qtz,carb,slty-	-	Wh	Fri	f	w	Rd	-	-	-	-	-	-	-	-	-	-	-	WTR	POR, PERM
2	6927	RECOVERY		(NONE)																			
3	6773	3/4	Sh	.Slty,f.mica	-	Gr	Sft	Slt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	6751	3/4	Sltst	Sdy,sli.carb	-	Gr,wh	Sft	Slt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	6647	3/4	Sh.	Slty,Horz Lam-	-	Dk.brn	Mod. Firm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				f. micac.																			
6	6623	3/4	Ss.	Slty,drty,pyr-	-	Dk.gr	Fri	Slt/ Crs	p	Ang	+25	-	-	-	-	-	-	-	-	-	-	-	
				micac.																			
7	6507	3/4	Ss.	Slty,Arg.	-	Red	Fri	f/m	p	Sr	+25	-	-	-	-	-	-	-	-	-	-	-	
8	6482	3/4	Ss.	Slty,Arg.	-	Red	Fri	f/m	p	Sr/ R	+25	-	-	-	-	-	-	-	-	-	-	-	
9	6456	3/4	Ss.	Slty,glauc?	-	Yel/ Red	Fri	f/m	m	Sr	+25	-	-	-	-	-	-	-	-	-	-	-	
10	6058	1½	Ss.		-	Wh	Uncon	f/peb	m	R	-	-	-	-	-	-	-	-	-	-	-	WTR	MUD INVADED
11	5998	½	Sh.	Foss.	-	Gr	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BASE LAKE ENTR.
12	5994	1½	Sltst.	V.glauc.	-	Lt.gr	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SLI. BENTONITIC
13	5982	1	Sltst.	Sli.lam.	-	Brn.gr	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	V. BENTONITIC
14	5960	1½	Sltst.	Arg.	-	Gr.	Mod. Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SLI. BENT.
15	5936	1½	Sh.		-	Gr.	Sft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	5920	1½	Sh.	Arg.F.mica.	-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	5890	1½	Slt.	Foss.	-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	5860	1	Slt	Slty	-	Gr.	Frm.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BENTONITIC
19	5830	1-1/8	Slt		-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BENTONITIC
20	5800	1½	Slt	Arg.	-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	5760	1-3/8	Slt	Arg.	-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	5690	1-3/8	Slt		-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TR SAND
23	5590	1	Slt	Tr Pyr,Sd	-	Gr.	Frm	Crs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	5450	1½	Slt		-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	5290	1½	Slt	Foss?	-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26	5010	1	Slt		-	Gr.	Frm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

FORM R 257 3/72

WELL PIKE-1

GEOLOGIST J. BLACK

SERVICE CO SCHLUMB

ESSO AUSTRALIA LTD.

SIDEWALL CORE DESCRIPTIONS

IES RUN NO 1 SWC RUN NO 1

PAGE 2 OF 2

ATT 30 REC 29

DATE 24/7/73

FORM R 237 3/72

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
27	4710	1½	Sh	Arg	-	Grn.Gr	Firm	-	-	-													
28	4310	1½	Sh	"	-	Grn.Gr	Firm	-	-	-													
29	3900	1 3/4	Sh	"	-	Grn.Gr	Firm	-	-	-													
30	3350	1½	Sh	"	-	Grn.Gr	Firm	-	-	-													

PIKE-1

PALAEONTOLOGIC DATA SUMMARY

D.J. Taylor

September, 1973

Form R 193 3/71

BASIN GIPPSLAND BY David Taylor

WELL NAME PIKE-1 DATE 1/9/73 ELEV.

Foram Zonules

		Highest Data	Quality	2 Way Time	Lowest Data	Quality	2 Way Time
MIOCENE	A						
	Alternate						
	B						
	Alternate						
	C						
	Alternate						
	D_1	3350	0		4310	1	
	Alternate						
	D_2	4710	0		4710	0	
	Alternate						
	E	5010 *	0		5010		
	Alternate						
	F	5290	1		5450	0	
	Alternate						
	G	5590	1		5690	1	
	Alternate	5830	1				
	H_1	5890	0		5936 +	1	
	Alternate						
	H_2						
	Alternate						
OLIGOCENE	I_1						
	Alternate						
	I_2						
	Alternate						
	J_1						
	Alternate						
	J_2						
	Alternate						
EOC.	K						
	Alternate						
	Pre K						

* 5010' = Top E = E-1

\+ SWC at 5998' contained a H-1 (0) fauna but on preservation was probably misplaced (mislabelled or misshot) and probably came above 5960'. It is noted that SWC 5994' was a "greensand" and one would expect it would come at base of marine sequence. Zonation was impossible on SWC 5994', 5982', 5960'.

COMMENTS:

Note: If highest or lowest data is a 3 or 4, then an alternate 0, 1, 2 highest or lowest data will be filled in if control is available.

If a sample cannot be interpreted to be one zonule, as apart from the other, no entry should be made.

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

Date Revised _____

By _____

PIKE - 1

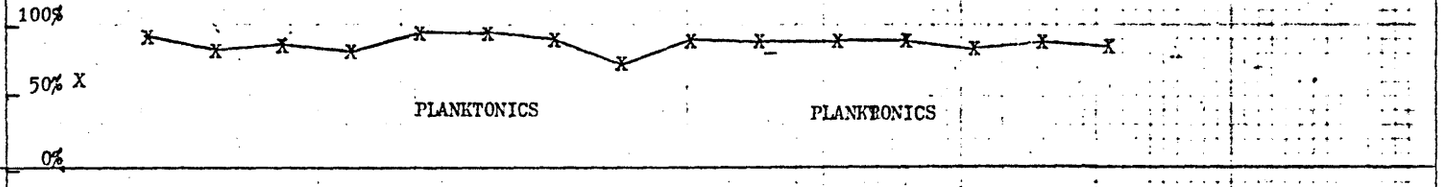
Depth not to scale	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998
side wall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
ARENACEOUS BENTHONICS - COMPLEX																				
90. Pseudoclavulina rudis	•																			
91. Gaudyrina heywoodensis			•																	
92. Textularia sp?					•															
93. Tritaxia sp?					•															
94. Textularia conica						•			•											
95. Valvulina granulosa						•							I	I						
96. Textularia semicarinata							•						•	•						
97. Valvulina sp?														•						
98. Martinotiella communis																	•			
*OTHER FOSSILS																				
Ostracods					I															
Echinoid spines									I			I	I							
MINERALS																				
Fine grained calcite	•	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I				I
Disseminated pyrite	I					I	I	I	I	I	I	I	I	I	I	I	I	I		
Angular quartz		•							•								•		I	•
Diagentetic effects on foraminifera												X	X	X	X	X	X	X		
Glauconite pellets													•						I	
Calcite rhombs																	I	I		
Pyrite spheres																	I			
Rounded quartz																			I	
Side wall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
ZONE	D-1	D-1	D-1	D-2	E-1	F	F	G	G	H-1	H-1	H-1	H-1	H-1	H-1	H-1	?	?	?	H-1
DEPTH	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998

?MISPLACED

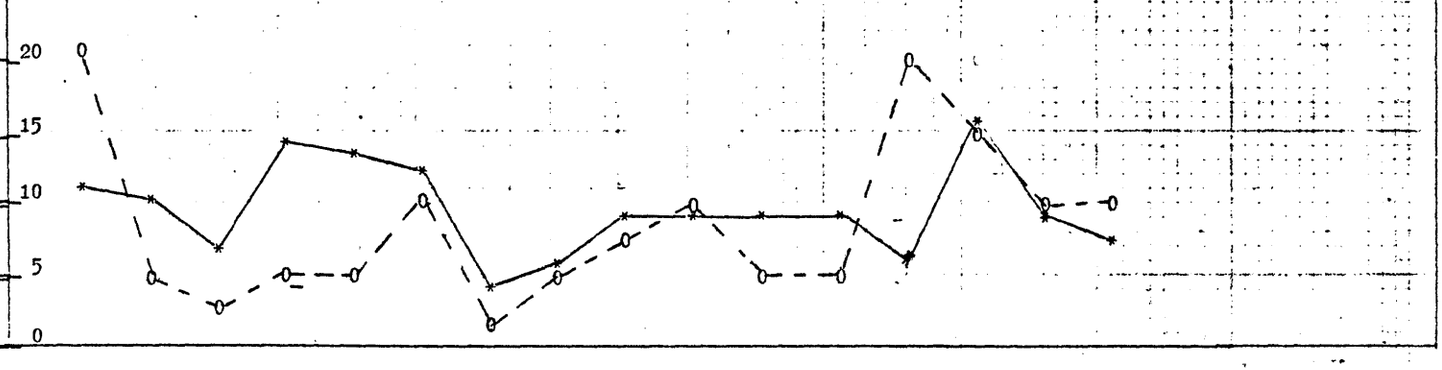
PIKE - 1

Depth not to scale	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998
ZONE	D-1	D-1	D-1	D=2	E-1	F	F	G	G	H-1	H-1	H-1	H-1	H-1	H-1	H-1	?	?	?	H-1
Side wall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
ENVIRONMENTAL ASSEMBLAGES	7/6	7/6	6	5	5	5	5	5	5	5	5/4	5/4	5/4	5/4	5/4	4	?	?	?	?MISPLACED
	OUTER SHELF TO EDGE OF SHELF			UPPER		SLOPE				UPPER SLOPE		TO		LOWER	SLOPE		HEAVY DIAGENISIS			
DIAGNOSTIC SPECIES IN ENVIRONMENTAL ANALYSIS — PRESENT	35	35	35	36	56	44	39	39	39	39	50	50	48	50	66	44				
	36	36	36	39	68	66			43	48	78	89		56						
	37	77	39	66	69	70		56	56	49				66						
	56	63	82	82	78	95		68	71	87				95						
	63									88										
ABSENT																				

ACCUMULATIVE % of PLANKTONIC to BENTHONIC FORAMS.



BENTHONIC SPECIFIC DIVERSITY NO. RELATIVE TO NO. OF SPECIMENS IN TOTAL FAUNA



—— = benthonic spcific diversity

0— — 0 = relative number of specimens in total fauna

LITHOLOGICAL DESCRIPTION of SIDEWALL CORES

from PIKE-1

by David Taylor.....24-8-73

One page

sidewall core No.	Depth	Description of untreated core	Description of residue
30	3350	medium grey marl	mainly foraminifera, disseminated pyrite, some f. grained calcite
29	3900	medium grey micritic limestone	fine grained calcite + foraminifera
28	4310	" " " " * ang. qtz.	" " " " * rare c. ang. qtz.
27	4710	" " " "	" " " " " " "
26	5010	brown/grey " "	" " " "
25	5290	" " " "	" " " " + disseminated pyrite
24	5450	" " " "	" " " "
23	5590	light grey " "	" " " " " " "
22	5690	medium grey " "	" " " " " " " + rare ang. qtz.
21	5760	" " " "	" " " "
20.	5800	" " " " + calcite viens	" " " "
19	5830	brown/grey " "	" " " " " " "
		" " " "	NOTE DIAGENETIC EFFECTS ON FORAMINIFERA AT & BELOW 5830
18	5860	" " " "	" " " " " " " + Rare glauconite
17	5890	" " " "	" " " " " " " " " "
16	5920	light grey " "	" " " " " " "
15	5936	" " " "	" " " " " " "
14	5960	" " " "	calcite rhombs + distorted foraminifera + disseminated pyrite + pyrite spheres + rare f. ang. qtz.
13	5982	Light brown/grey" "	calcite rhombs - all foraminifera absent due to extreme diagensis + disseminated pyrite
**12	5994	" " " sandstone	abundant f.-m. ang. qtz & pellet glauconite. Rare rounded qtz & foraminifera
**11	5998	medium grey micritic limestone	fine grained calcite + rare ang. qtz.
9	6456	brown silty quartz sandstone	c.-m.-f ang. qtz = some sub-round m. ang. qtz. Orange stained qtz. sandtone frags & sub-concoidal coal frags.

NOTE

** Sidewall cores 12 & 11 are probably misplaced (? mislabelled) as one would expect the qtz. glauconite sandstone (ie. "greensand") to be below the limestone. In fact foraminifera content of sidewall core 11 suggests that it may have come from above 5960.

PIKE - 1

Depth not to scale	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998
Sidewall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
CALC. BENTHONICS V																				
63. Buuvigerina miozea	•	•	•		I															
64. Trifarina bradyi	•																			
65. Buuvigerina mata			I																	•
66. Siphouvigerina proboscidae				•	•									I	I					
67. Loxostonum sp?				I																
68. Buuvigerina maynii					I			I												
69. E pickii					•															
70. Siphouvigerina plebja						I														
71. Globobulimina pacifica									•											
72. Bulimina marginata																				
73. Bolivina anastomosa																				•
CALC. BENTHONICS VI																				•
74. Lagena spp.	I	I		I	•	I	I		I					I						
75. Lenticulina spp.	I	I		I	I	•			I	I	I	I	I	I	I					•
76. Nodosaria spp.					I					I					I					•
CALC. BENTHONICS VII																				
77. milliolids spp.		I																		
78. Sigmoilopsis schlumbergi					•						•									
79. Spiroloculina sp?	•														•					•
80. Pyrgo sp0																				•
ARAGONONITIC BENTHONICS																				
81. Ceratobulimina sp.					•															
ARENACEOUS BENTHONICS - PRIMITIVE																				
82. Bathysiphon sp.B		•	•											•						
83. Ammodiscus sp (coarse)				•																
84. Ammosphearoidina sp.					•				I		•	•				•				
85. Bathysiphon sp.A					•															
86. Haplophragmoides sp.						•	•													I
87. Discammina compressa										•										
88. Avelophragmium cf. H. incisa										•										
89. Reophax spp.		•									•	•								•

Sidewall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
ZONE	D-1	D-1	D-1	D-2	E-1	F	F	G	G	H-1	H-1	H-1	H-1	H-1	H-1	H-1	?	?	?	H-1
DEPTH	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998

?MISPLACED

PIKE - 1

Depth not to scale	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998
Sidewall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
CALC. BENTHONICS I																				
33. Anomalinoides macroglabra	I		I		I															
34. A. procolligera	•	•		•		•					•	•								
35. Cibicides lobatulus (flat)	I	I	I																	
36. C. lobatulus (convex)	I	I	I	I									•	•	•	•				
37. C. mediocris	I																			
38. Alabamina tenuimarginata		•		•			•													
39. Cibicides thiara			I	I			•	•	•	•										
40. C. victoriensis				I																
41. C. perforatus						•		•					I	•	I	I	I			
42. C. pseudoungerianus						•									I	I				
43. Gyroidinoides zelandica						•		I								•				
44. "Planulina" wullerstorfi						•			•											
45. Gyroidinoides subzelandica							•			•										•
46. Cibicides vortex									•								•			•
47. Gyroidinoides tenera										•										
48. Osangularia bengalensis										•			•							
49. Melonis sp?										•				•						
50. Cibicides novozelandica											•	•		I						
51. C. brevoralis	•												•							
52. Astrononion centroplax														•						
53. Discorbinella berthelotti														•	•	I				
54. D. concavus																				
55. Anomalina vitrinoda																				•
CALC. BENTHONICS II &III NOT PRESENT																				•
CALC. BENTHONICS IV																				
56. Cassidulina carinata	I				I			I	I					I						
57. C. subglobossa	I		I			I					I									
58. Sphearoidina bulloides	I	I		I	I			I	I	•	I	I	I	I	I	I	I			•
59. Pullinia bulloides				I	•															•
60. Chilostomella sp.					°								•		•					
61. Nonionella sp?										°		I								
62. Cassidulina sp0														•						

Side wall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
ZONE	D-1	D-1	D-1	D-2	E-1	F	F	G	G	H-1	H-1	H-1	H-1	H-1	H-1	H-1	?	?	?	H-1
DEPTH	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998

?MISPLACED

2nd copy.

PIKE - 1

Sheet 1 of 5 sheets.

. = 1-20 specimens
I = over 20 specimens
? = identification dubious

Depth not to scale	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998
Side wall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
PLANKTONICS																				
1. Orbulina universa	I	I		.																
2. O. suturalis	.	.		.				?												
3. Globigerina apertura	I	I	I	I	I			I	I			I	I	I	I	I	?			I
4. G. bulloides	I	I	I	I	I		I	I												
5. G. woodi woodi	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	?	?	?	I
6. Globoquadrina dehiscens	.			.	.	.	.													
7. Globorotalia menardii	I																			
8. G. miotumida	I		.																	
9. G. miocenica	I																			
10. G. miozea conoidea	I	I																		
11. G. mayeri barisaensis	.	.		I																
12. G. conica		I																		
13. G. miozea miozea		I		I		I														
14. Globigerinoides trilobus			I	I	I	I	.	I	I											
15. Globorotalia peripheroacuta				.																
16. G. peripheroronda				.	I															
17. G. praemenardii				.																
18. Globoquadrina advena				.																
19. G. altispira				.				.												
20. Globigerinoides bisphericus				I	I	I														?
21. G. glomerosus curvus					.															
22. Globorotalia zealandica incognita						.	.													
23. Globigerinoides trilobus — bisphericus							.													
24. Globigerina ciperoensis							.		I		I	I	I	I	I	I				
25. Globoquadrina praedehiscens								I	I	I	I	I	I	I	I	I	?			
26. Globorotalia opima continuosa								I		I										•
27. Globigerina praebulloides									I	I	I	I	I	I	I	I				I
28. G. woodi connecta									I	I	I	I		I	I	I			?	I
29. Globorotalia pseudkugleri										••										
30. G. zealandica zealandica											••	•								
31. G. kugleri														•						
32. G. cf. miozea																			?	I

Side wall core	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
ZONE	D-1	D-1	D-1	D-2	E-1	F	F	G	G	H-1	H-1	H-1	H-1	H-1	H-1	H-1	?	?	?	H-1
DEPTH	3350	3900	4310	4710	5010	5290	5450	5590	5690	5760	5800	5830	5860	5890	5920	5936	5960	5982	5994	5998

?MISPLACED

PIKE-1

PALYNOLOGIC REPORT

L. Stover

PALYNOLOGICAL DETERMINATIONS FOR PIKE-1, GIPPSLAND BASIN, AUSTRALIA

Lewis E. Stover

SUMMARY

Paleogene spore-pollen zone assignments for assemblages recovered from sidewall cores from Pike-1 are tabulated below.

SWC & DEPTH	ZONE	AGE
12 - 5994'	*Proteacidites tuberculatus*	Oligocene
9 - 6456'	Indeterminate (practically barren)	- - - - -
7 - 6507'	Indeterminate (barren)	- - - - -
6 - 6623'	Upper *M. diversus*	Early Eocene
5 - 6647'	Upper *M. diversus*	Early Eocene
4 - 6751'	*Lygistepollenites balmei*	Paleocene
3 - 6773'	*Lygistepollenites balmei*	Paleocene
1 - 6936'	*Lygistepollenites balmei*	Paleocene

DISCUSSION

Assemblage from sidewall core 12 at 5994 feet

Contents; sparsely fossiliferous consisting of spore-pollen and microplankton

Preservation: generally fair, with some well preserved and some poorly preserved forms.

Diversity: low for both spore-pollen and microplankton.

Assignment to the *Proteacidites tuberculatus* zone is based on the occurrence of *Cyatheacidites annulatus*. Other species in the assemblage are relatively long ranging forms with the possible exception of the acritarchs which are

represented by undescribed species. Examples of Upper Carboniferous spores (two specimens of *Triquitrites* and one of *Lycospora*) were identified in the assemblage. The presence of these forms might represent recycling, provided a reasonable provenance can be ascertained, or alternatively, they might have been introduced through a drilling mud additive. The latter appears more likely inasmuch as the identified genera are most prevalent in North American and western European Carboniferous assemblages.

Assemblage from sidewall core 6 at 6623 feet

Contents: commonly fossiliferous, mixed assemblage with about equally abundant spore-pollen and microplankton.

Preservation: good to poor with most specimens fairly well preserved.

Diversity: low for spore-pollen, moderate for microplankton.

The microplankton were relied upon more heavily than the spore-pollen in interpretating the age and zone assignment. Dinoflagellate association from 6623 feet is very similar to that described by Cookson and Eisenback (1967) from Strahan, Tasmania, which also contains spore-pollen indicative of the Upper *M. diversus* zone. Important dinoflagellate species in the Pike-1 sample that also occur in the Strahan assemblage include *Kenleyia lophophora*, *Spinidinium essoi*, *Wetzeliella homomorpha* and *Homotryblium tasmaniense*, with the latter being the dominant species in both assemblages. Although spore-pollen fail to provide much additional zone-confirming data, the species identified are collectively compatible with the age determination based on the microplankton.

Assemblage from sidewall core 5 at 6647 feet

Contents: abundantly fossiliferous, almost exclusively spore-pollen with rare microplankton.

Preservation: good to poor, condition of large (>50μ) and relatively thick walled forms is good whereas small, thin walled, or delicately structured species is rather poor.

Diversity: seemingly low, probably due at least in part to the poor preservation that precludes more precise identification of many specimens.

Assignment to the Upper *M. diversus* zone is based on the co-occurrence of *Proteacidites grandis*, *P. leightonii* and *P. ornatus* with the first species being far more common than the other two. Specimens of the dinoflagellate *Deflandrea flounderensis* (known from the Upper *M. diversus* - *P. asperopolus* interval in the Flounder-Tuna area) and *Kenleyia lophophora* are present in the assemblages.

Assemblages from sidewall cores at 6751 feet (SWC 4), 6773 feet (SWC 3) and 6936 feet (SWC 1).

Contents: sparsely to commonly fossiliferous with spore-pollen and sparse to rare microplankton.

Preservation: fair to poor, with the spores and gymnosperm pollen being better preserved than the angiosperm pollen.

Diversity: low, which is due at least in part to the poor preservation.

Common specimens of *Lygistepollenites balmei* occur in all assemblages, and in the shallowest sample this species is the most conspicuous form (26 specimens observed on one slide in a sparse assemblage). Other forms occurring in the interval from 6751 to 6936 feet and indicative of the *L. balmei* zone are *Gambierina rudata*, *Gephyrapollenites wahooensis*, *Lygistepollenites ellipticus*, *Phyllocladidites reticulosaccatus* and *Polycolpites langstonii*.

CONCLUSIONS

The occurrence of *Cyatheacidites annulata* is considered to indicate the presence of the *Proteacidites tuberculatus* zone (Oligocene) at 5994 feet.

Dinoflagellates comprise a major component of the Early Eocene Upper *Malvacipollis diversus* assemblage at 6623 feet. The dinoflagellate association is most similar to that described from Strahan, Tasmania (Cookson and Eisenack, 1967). Sparse to rare dinoflagellates are also present at 5994, 6647, 6751 and 6773 feet and are lacking at 6936 feet.

Assemblages with numerous specimens of *Lygistepollenites balmei*, together with other but less commonly occurring species also indicative of the *L. balmei* zone (Paleocene) were recovered from samples at 6751, 6773 and 6936 feet.

REFERENCE

Cookson, I. C. & Eisenack, A., 1967, Some early Tertiary microplankton and pollen grains from a deposit near Strahan, western Tasmania: Royal Soc. Victoria Proc., v. 80, pp. 131-140.

BASIN Gippsland DATE August, 1973

WELL NAME Pike-1 ELEVATION

AGE	PALYNOLOGIC ZONES	HIGHEST DATA					LOWEST DATA				
		Preferred Depth	Rtg	Alternate Depth	Rtg	2 way time	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time
OLIGO-MIOC.	T. bellus										
	P. tuberculatus	5994	2				5994	2			
EOCENE	U. N. asperus										
	L. N. asperus										
	P. asperopolus										
	U. M. diversus	6623	1				6647	1			
	L. M. diversus										
PALEO-CENE	L. balmei	6751	1				6936	1			
	T. longus										
LATE CRETACEOUS	T. lilliei										
	N. senectus										
	C. trip./T.pach.										
	C. distocarin.										
	T. pannosus										
EARLY CRETACEOUS	C. paradoxa										
	C. striatus										
	U. C. hughesii										
	L. C. hughesii										
	C. stylosus										
Pre-Cretaceous											

COMMENTS:

RATINGS:
0; SWC or CORE, EXCELLENT CONFIDENCE, assemblage with zone species of spores, pollen and microplankton.
1; SWC or CORE, GOOD CONFIDENCE, assemblage with zone species of spores and pollen or microplankton.
2; SWC or CORE, POOR CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.
3; CUTTINGS, FAIR CONFIDENCE, assemblage with zone species of either spores and pollen or microplankton, or both.
4; CUTTINGS, NO CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.

NOTE: If a sample cannot be assigned to one particular zone, then no entry should be made. Also, if an entry is given a 3 or 4 confidence rating, an alternate depth with a better confidence rating should be entered, if possible.

DATE RECORDED BY: L. E. Stover DATE August, 1973

DATE

BASIN GIPPSLAND DATE

WELL NAME PIKE-1 ELEVATION KB +32'

PALYNOLOGIC ZONES	HIGHEST DATA					LOWEST DATA				
	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 t:
P. tuberculatus	5994	1				5994	1			
U. N. asperus										
M. N. asperus										
L. N. asperus										
P. asperopolus										
U. M. diversus										
M. M. diversus										
L. M. diversus	6623	2				6647	1			
U. L. balmei	6751	1				6773	0			
L. L. balmei	6936	1				6936	1			
T. longus										
T. lilliei										
N. senectus										
C. trip./T.pach.										
C. distocarin.										
T. pannosus										

COMMENTS: Wetzeliella homomorpha Zone at 6773(1)

RATINGS:
0; SWC or CORE, EXCELLENT CONFIDENCE, assemblage with zone species of spores, pollen and microplankton.
1; SWC or CORE, GOOD CONFIDENCE, assemblage with zone species of spores and pollen or microplankton.
2; SWC or CORE, POOR CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.
3; CUTTINGS, FAIR CONFIDENCE, assemblage with zone species of either spore and pollen or microplankton, or both.
4; CUTTINGS, NO CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.

NOTE: If a sample cannot be assigned to one particular zone, then no entry should be made. Also, if an entry is given a 3 or 4 confidence rating, an alternate depth with a better confidence rating should be entered, if possible.

DATA RECORDED BY: L.E.S. DATE August 1973.

DATA REVISED BY: A.D.P. DATE Jan. 1975.

WELL NAME: PIKE # 1

DEPTH (FT)	SAMPLE TYPE	PRESER-VATION	DIVERSITY	SPORE/POLLEN ZONE	DINOFLAGELLATE ZONE	CONFIDENCE LEVEL	ENVIRONMENT
5994	SWC 12	Good	Moderate	U.N. asperus	Spiniferites assemb	5	Marginal marine
6456	SWC 9	Poor	V. Low	Indet	Indet	-	-
6507	SWC 7	Barren	-	-	-	-	-
6623	SWC 6	Good	High	M. diversus	Indet	5	Marginal marine
6647	SWC 5	Fair	High	M. diversus	-	3	Non-marine
6751	SWC 4	Good	High	U.L. balmei	A. homomorphum	5	Marginal marine
6773	SWC 3	Good	High	U.L. balmei	A. homomorphum	5	Marginal marine
6936	SWC 1	Good	High	L. balmei	-	5	Non-marine

BY W.K. HARRIS

FOR AQUITAINE, PHILLIPS, SHELL.

GEOLOGICAL INTERPRETATION

- AUSTRALIAN AQUITAINE PETROLEUM

PIKE-1. W671

AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

(INCORPORATED IN THE ACT)

Elf Aquitaine Centre, 99 Mount Street, North Sydney, N.S.W. 2060

All Communications to: Box 725 P.O., North Sydney, N.S.W. 2060, Australia

Cables: PETRAKI
Telex: AA 26684
Telephone: (02) 922-3499
DX 10512 North Sydney

Our ref: 5471:KL:efm

Your ref:

OIL and GAS DIVISION

20 SEP 1982

16th September 1982

RECD 21/9/82 KW

CONFIDENTIAL

Mr Ian Fraser,
Assistant Director (Exploration),
Oil and Gas Division,
Department of Minerals and Energy,
151 Flinders Street,
MELBOURNE VIC 3000

Dear Mr Fraser,

Please find enclosed a seismic section and an explanatory note on seismic interpretation of a barrier system in VIC/P17 (Gippsland Basin) which is being carried out by our Gippsland Team. This interpretation represents an idea which has not been put forward previously, and therefore, much further work has to be carried out to test the idea.

Your special interests in our work is very much appreciated.

Yours faithfully,
AUSTRALIAN AQUITAINE PETROLEUM PTY LTD

C. Lambert

C. LAMBERT
(Gippsland Team Leader)

SEISMIC FACIES OF A BARRIER SYSTEM IN VIC/P17 (GIPPSLAND BASIN): A PRELIMINARY INTERPRETATION

The enclosed section represents an example of a sedimentary body found in VIC/P17 which has been interpreted as a barrier system. The age of this barrier system as encountered at Pike No. 1 and given by palynological evidence is between M. Diversus and U.N. Asperus zones. The barrier system is composed of three distinct seismic facies: A, B and C.

Facies A is characterised by a strong reflection with the overlying shales of the Lakes Entrance Formation. It is composed of a coarse to medium-grained, well-sorted sandstone (see description of core 1 at Pike). The sandstone consists primarily of quartz grains, well to well rounded and frosty white. The rock is characterised by a good porosity (21% at Pike) and horizontal permeability (H = 2402 millidarcies). The facies has been interpreted as a barrier beach and shoreface complex which offlaps an older surface in one side, but grades to another facies (Facies B) in the opposite side.

Facies B is characterised by low lateral continuity and variable amplitudes and by a lack of contrast with the overlying Lakes Entrance Formation shales. The facies has been interpreted as a unit of lagoon shales with possible embedded sandstones.

Facies B grades further (landward) to Facies C which is characterised by a strong continuous reflection. In VIC/P17 these strong continuous reflections are usually caused by the occurrence of coal seams as indicated in many wells tied to seismic sections. Thus they are interpreted as a backbarrier marsh environment which occur behind the suggested lagoon facies (Facies B).

This barrier probably is of a transgressive type as another barrier (drowned barrier) has been interpreted in the overlying unit. The transgression possibly took place as a result of a coastal subsidence. However, the present interpretation will have to be supported by the geometries of these facies.

The present work represents a slightly different version of seismic facies interpretation of barrier systems carried out previously by Ly et al., (1982), and is part of a larger on-going interpretation project. All units and facies of ages ranging from Late Cretaceous to Miocene are being systematically mapped throughout VIC/P17 and it will be interesting to see how the result will match the present model.

REFERENCE

Ly, K.C., Poulain, P., Mackie, S., 1982: Eocene sedimentation in VIC/P17 Gippsland Basin: Evidence from sedimentology and seismic stratigraphy. AAP Report No. PG/168/82 (Unpublished).

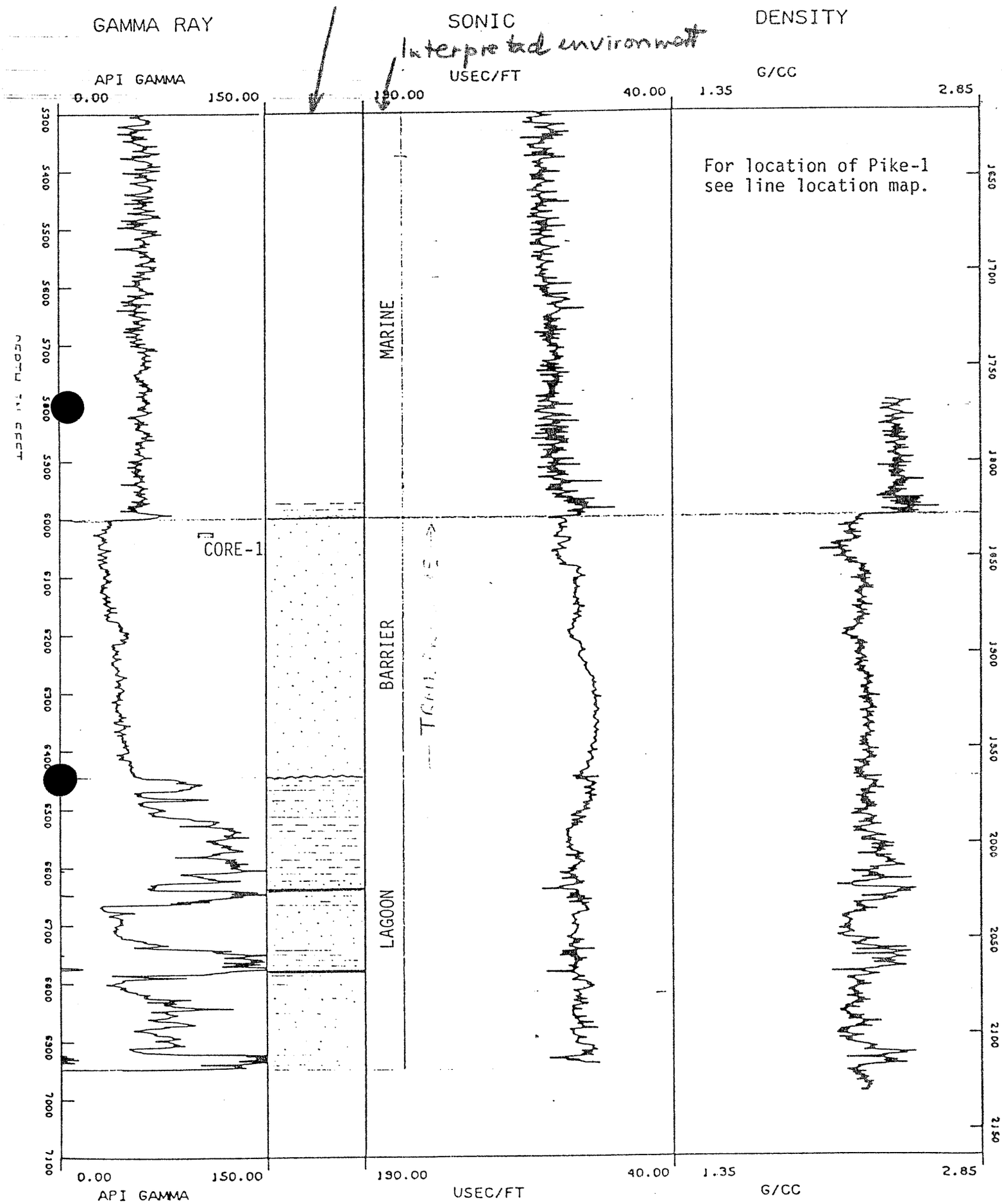
KIM C. LY
(Senior Geologist)

PIKE-1

Interpreted section

CONFIDENTIAL

20 SEP 1982



PREPARED FOR AQUITAINE BY DIGIMAP

20 SEP 1982 **CONFIDENTIAL**

CORE DESCRIPTION

AAP

PERMIT

BASIN GIPPSLAND

CORING INTERVAL

RECOVERY LENGTH

% RECOVERY

OPERATION DATE

CORE TYPE | BARREL DIA | MUD

WELL PIKE-1

CORE NO. 1

TOP

BASE

GEOLOGIST

DEPTH (m)	AS RECOV	GRAINS	Ø	CO_3	SECT	Fluo Dir	STRS	LITHOLOGICAL DESCRIPTION
1834								AGE: PERIOD / GROUP / STAGE; ENVIROMENT: CYCLE / FACIES / ENVIROMENT; LITHOLOGY
2								EOCENE / LATROBE / SHOREFACE-BEACH / NEARSHORE MARINE Sandstone: frosty white, well rounded, well sorted, unconsolidated coarse-very coarse grained quartz, excellent perosity & permeability.
3								
4								
1838								NOT RECOVERED
6								For location of Pike-1 see line location map.

Dwg No 19913

OTHER REPORTS

THE STRATIGRAPHIC PALYNOLOGY OF SELECTED SAMPLES FROM BULLSEYE - 1 MORAY - 1 PERCH - 1 PIKE - 1, GIPPSLAND BASIN.

for: AUSTRALIAN AQUITAINE PETROLEUM PTY. LTD.

July, 1983.

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

BIOSTRATIGRAPHIC & PALEOENVIRONMENTAL DATA PACKAGE # 1 for GIPPSLAND BASIN.

PIKE-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

UNION TEXAS AUSTRALIA INC.

GEOCHEMICAL ANALYSES OF WELLS FROM THE GIPPSLAND BASIN, AUSTRALIA

BARRACOUTA-1, HALIBUT-1, HAPUKU-1, KINGFISH-1, MORAY-1, PERCH-A1, PIKE-1, PISCES-1, SNAPPER-1, TUNA-1

Project No. 9/83/105

By

S. Sengupta, S. Hindmarsh and P.J. Bigg

January, 1984

Prepared by:

Gearhart Pty. Ltd.- Geodata
Unit 2
138 Musgrave Avenue
Welland, S.A. 5007
Australia

Prepared for:

Union Texas Australia Inc.
23rd Level
459 Collins Street
Melbourne, VIC 3000
Australia

GEOTRACK
INTERNATIONAL

FISSION TRACK ANALYSIS OF APATITE AND ZIRCON FROM THE GIPPSLAND BASIN: MULLET-1, GROPER-1 AND PIKE-1.

A Report prepared for Esso Australia Ltd.

P.F. GREEN AND I.R. DUDDY

October 1985

GEOTRACK REPORT NO. 29

Department of Geology, The University of Melbourne, Parkville, Victoria 3052, Australia
Telephone National (03) 341 6520 International +61 3 341 6520 Telex AA35185 UNIMEL Cables UNIMELB

PE604508

This is an enclosure indicator page.
The enclosure PE905988 is enclosed within the container PE902333 at this location in this document.

The enclosure PE905988 has the following characteristics:

ITEM_BARCODE	= PE905988
CONTAINER_BARCODE	= PE902333
NAME	= Well Completion Log
BASIN	= GIPPSLAND BASIN
PERMIT	= VIC/P2
TYPE	= WELL
SUBTYPE	= COMPLETION_LOG
DESCRIPTION	= Well Completion Log (enclosure from WCR) for Pike-1
REMARKS	=
DATE_CREATED	= 25/07/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC

(Inserted by DNRE - Vic Govt Mines Dept)

PE905989

This is an enclosure indicator page.
The enclosure PE905989 is enclosed within the container PE902333 at this location in this document.

The enclosure PE905989 has the following characteristics:

ITEM_BARCODE	= PE905989
CONTAINER_BARCODE	= PE902333
NAME	= Structure Map
BASIN	= GIPPSLAND BASIN
PERMIT	= VIC/P2
TYPE	= SEISMIC
SUBTYPE	= HRZ_CNTR_MAP
DESCRIPTION	= Pike Prospect Structure Map on Top of Latrobe Group, Post Drill, (enclosure from WCR) for Pike-1
REMARKS	=
DATE_CREATED	= 31/10/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC

(Inserted by DNRE - Vic Govt Mines Dept)

PE905991

This is an enclosure indicator page.
The enclosure PE905991 is enclosed within the container PE902333 at this location in this document.

The enclosure PE905991 has the following characteristics:

ITEM_BARCODE	= PE905991
CONTAINER_BARCODE	= PE902333
NAME	= Time Depth Curve
BASIN	= GIPPSLAND BASIN
PERMIT	= VIC/P2
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= Time Depth Curve (enclosure from WCR) for Pike-1
REMARKS	=
DATE_CREATED	= 24/07/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC

(Inserted by DNRE - Vic Govt Mines Dept)

PE905990

This is an enclosure indicator page.
The enclosure PE905990 is enclosed within the container PE902333 at this location in this document.

The enclosure PE905990 has the following characteristics:

ITEM_BARCODE	= PE905990
CONTAINER_BARCODE	= PE902333
NAME	= Geological Cross Section A-A'
BASIN	= GIPPSLAND BASIN
PERMIT	= VIC/P2
TYPE	= WELL
SUBTYPE	= CROSS_SECTION
DESCRIPTION	= Geological Cross Section A-A' (enclosure from WCR) for Pike-1
REMARKS	=
DATE_CREATED	= 31/10/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC

(Inserted by DNRE - Vic Govt Mines Dept)

PE603603

This is an enclosure indicator page.
The enclosure PE603603 is enclosed within the container PE902333 at this location in this document.

The enclosure PE603603 has the following characteristics:

ITEM_BARCODE	= PE603603
CONTAINER_BARCODE	= PE902333
NAME	= Mud Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P2
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log for Pike-1
REMARKS	=
DATE_CREATED	= 23/07/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603604

This is an enclosure indicator page.
The enclosure PE603604 is enclosed within the container PE902333 at this location in this document.

The enclosure PE603604 has the following characteristics:

ITEM_BARCODE	= PE603604
CONTAINER_BARCODE	= PE902333
NAME	= Compensated Neutron Density Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P2
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Compensated Neutron Formation Density Log for Pike-1
REMARKS	=
DATE_CREATED	= 23/07/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603605

This is an enclosure indicator page.
The enclosure PE603605 is enclosed within the container PE902333 at this location in this document.

The enclosure PE603605 has the following characteristics:

ITEM_BARCODE	= PE603605
CONTAINER_BARCODE	= PE902333
NAME	= ISF/Sonic Log
BASIN	= GIPPSLAND
PERMIT	= VIC/P2
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= ISF/Sonic Electrical Log for Pike-1
REMARKS	=
DATE_CREATED	= 23/07/73
DATE_RECEIVED	=
W_NO	= W671
WELL_NAME	= PIKE-1
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)