

MACKEREL - 3

T.D. 8635'
 ESSO. VIC. LIS.

643

W.D. 332' KB
 GLOMAR CONCEP

- ✓ IES Run 2¹. 2^{" and "} 5["]. 2869 - 8617 Sep. 2^{" and "} 5["]
- ✓ BHCS/CAL. " 2¹. 2^{" and "} 5["]. " - 7850. " 2["] 5["]
- ✓ FD/CNL/GR. " 1. 2^{" and "} 5["]. GR 300 - 8619. " 2["] 5["]
 FD 7600
 CNT 2820
- ✓ SNP/CAL. " 1. 2^{" 4 5"} 7600 - 8616.
- ✓ FIT. " 1. Tests 1 - 11.
- ✓ HDT. " 1. 5["] 6000 - 8627.
- ✓ Dipmeter Interpretation 2["] " " "
- ✓ " " 5["] " " "
- ✓ Magnetic Declination 5["] " " "
- ✓ " " 5["] 7220 - 7350.
- ✓ Baroid Mudlog 870 - 8635. + 7600 - 7612
- ✓ " ADT. " " "
- ✓ "d" exponent " " "
- ✓ Agnew - Go - Western's Subsurface Pressures with Kuster Geuges
 cores 4 off. Received at store
- ✓ " Descriptions 1 - 4 ESSO + 1c
- ✓ " Analysis Results. Core Lab.
- ✓ " " " BMR. 1# - 4.
- ✓ ~~Depth Table.~~
- ✓ S.W.C. Shot 47. Rec. 45. C.R.
- ✓ " Descriptions Run 1. 1 - 30. Run 2. 1 - 17.
- ✓ Cuttings. 850 - 8630. IN STORE. C.F.
- Completion Report Copy
- SAMPLE DESCRIPTIONS 850' - 7280', 7740' - 8637
- X Well Completion Log.
- Time Depth Curve (needs marking) + 1
- X Palaeontology Report by D. Taylor.
- X Palynology " " A. D. Partridge. Plus revision.
- X Hydrocarbon Report - Subsurface oil. EPR. 88 PS. 72 (Jin. Log)
- X Analysis of Oil by B. M. R.
- X Structure Map. Top of Latrobe Group.
- X " " " " " " Section A-A' marked + 1c
- X Geological cross section A-A'.
- X Weekly Reports No cutting descriptions

MACKEREL-3

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COMPLETION REPORT

I WELL DATA RECORD

Date May 9, 1972

LOCATION

WELL NAME Mackere1-3	STATE Victoria	PERMIT or LICENCE VIC L/5	GEOLOGICAL BASIN GIPPSLAND	FIELD Mackere1
CO-ORDINATES		X 618833E	Y 5740716N	MAP PROJECTION AMG Zone 55 Coordinates
GEOGRAPHICAL DESCRIPTION Offshore, Gippsland Basin Victoria.				
<u>ELEVATIONS & DEPTHS</u>				
ELEVATIONS Ground Sea Level KB 32 feet RT Braden Head Top Deck Platform	WATER DEPTH 332 feet	TOTAL DEPTH 8635 feet driller	Avg. Angle Straight hole	
	PLUG BACK DEPTH 136' Below Mud Line	REASONS FOR P.B. Abandonment		
<u>DATES</u>				
MOVE IN 30/3/72	RIG UP 30/3/72	SPUDDED 0245 hours 1st April, 1972		
RIG DOWN COMPLETE 26/4/72	RIG RELEASED 26/4/72	PROD. UNIT - Start Rigging Up		
PROD. UNIT - Rig Down Complete		I.P. ESTABLISHED		
<u>MISCELLANEOUS</u>				
OPERATOR Esso Australia Pty Ltd	PERMITTEE or LICENCEE Esso-Hematite	ESSO INTEREST 50%	OTHER INTEREST Hematite Petroleum Pty Ltd 50%	
CONTRACTOR Global Marine Australasia Pty Ltd	RIG NAME Glomar Conception	EQUIPMENT TYPE Drilling vessel		
TOTAL RIG DAYS 26.53	DRILLING AFE NO. 232/202	COMPLETION NO.	TYPE COMPLETION P & A	
LAHEE WELL	Before Drilling	Outpost		
CLASSIFICATION	After Drilling	Successful Outpost		

A.P. Whittle
Geologist

IV CASING - LINER - TUBING RECORD							
Type	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
	Water Depth 332+' K.B. to M.S.L. 32'						364'
Conductor 30" x 20" Pile Joint							
	20"	91.5	X52 LP	CIW JV	12	486.21	850.21'
	10'3/4"	40.5	J55	Butt	65	2507.32'	2871.32'
Note: Pile Joint and wellhead was salvaged prior to move off.							

V CEMENT RECORD			
String	30"/20" Pile Joint	20"	10-3/4"
Type of Cement	45 sx Aust. N. with 2% CaCl ₂	785 sx Aust. N 6% pre-blended gel plus 350 sx w/ 2% CaCl ₂	500 sx Aust. N neat fresh water
Number of FT ³	53	1740	590
Average weight of slurry	15.6 ppg	14.5/15.0 ppg	15.6 ppg
Cement Top	-	Returns not observed on T.V.	± 1500'
Casing Tested with	-	500 psi	1500 psi
Number of Centralizers	-	4	5
Number of Scratchers	-	-	-
Stage Collar etc.	-	-	-
Remarks	-	-	-

J.M. Maconochie
 Engineer

WELL MACKEREL #3

VII SAMPLES, CONVENTIONAL CORES, SW CORES					
INTERVAL	TYPE	RECOVERED	INTERVAL	TYPE	RECOVERED
850 - 8637	Cuttings (Washed & Dried)	Sampled every 10 feet			
850 - 8637	Cuttings (sacked unwashed)	Sampled every 10 feet			
850 - 8637	Cuttings (Canned)	Sampled every 100 feet			
6000 - 8587	Sidewall Cores	Attempted 47, Recovered 45			
7813 - 35	Conventional Core # 1	18'			
7835 - 69	Core # 2	27'			
7869 - 90	Core # 3	20'			
7890 - 7940	Core # 4	40'			

VIII WIRELINE LOGS AND SURVEYS Incl. FIT)					
Type & Scale	From	To	Type & Scale	From	To
IES 2" & 5"	2869	8617	FIT # 8	7862	(Successful)
FD-GR 2" & 5" (uncompensated)	7600	8619 (GR 300 - 8619)	9	7861	(Successful)
CNL 2" & 5"	2820	8619	10	7864	(Successful)
SNP 2" & 5"	7600	8616	11	7862	(Successful)
BHCS-SP 2" & 5"	2869	7850		(All IES depths)	
HDT	6000	8627			
Velocity Survey					
FIT #1	7894	(Successful)			
2	7905	(Successful)			
3	7855	(Successful)			
4	7815	(Successful)			
5	7866	(Successful)			
6	7864	(Successful)			
7	7863	(Successful)			

A.P. Whittle
Geologist

WELL MACKEREL #3

IX	FORMATION TOPS/Zones					REMARKS	
	NAME	Tops		Gross Interval (ft)	Net Pay (ft).		
		M.D.	Sub-sea		Gas		Oil
Miocene Gippsland Fm	Sea Floor	- 332					
Mid Miocene Marker	7268 2215.3	-7236					
Oligocene	7450 2270.7m	-7418					
Latrobe Group	7803 2378m	-7771	99'		93'	7809-7902	

X GEOLOG C ANALYSIS (Pre Drilling prognosis Vs actual results)

Pre Drill: The Mackerel Field is a combined paleotopographic structural feature divided into three blocks by two faults cutting the Latrobe unconformity. Mackerel-3 was located in the northeastern block to test the Latrobe section seen in the central block in Mackerel-1 and -2. The predicted tops were as follows:

<u>Age</u>	<u>Formation</u>	<u>Subsea Depth</u>
Miocene	Gippsland Formation	- 324
Miocene	Mid Miocene Marker	-7133
Oligocene		-7468
Paleocene	Latrobe Group	-7680

182' of gross pay was anticipated.

Post Drill: The top of Latrobe in Mackerel-3 came in 91 feet low to prediction due to variation in the velocity applied and a minor time pick error. The well velocity survey indicated that the predicted velocity was about 90 ft/sec. too slow to the top of Latrobe. As a result the gross oil column in the well was only 99' thick of which 93' is net oil sand.

The top of Latrobe in the northeastern block of Mackerel has been revised and further velocity analysis and extra shooting is planned to further define the limits of the Mackerel field.

A.P. Whittle/B.G. McKay
Geologist

MACKEREL-3 COMPLETION REPORT

- * Palynology of Mackerel-3
- * Completion Log - Mackerel-3
- * Structure Map - Top Latrobe Group
- * Geological Cross Section A-A'
- * Time-Depth Curve - Mackerel-3

PE902781

This is an enclosure indicator page.
The enclosure PE902781 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE902781 has the following characteristics:

- ITEM_BARCODE = PE902781
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel Prospect Structure Map Top
Latrobe Group
- BASIN = GIPPSLAND
- PERMIT =
- TYPE = SEISMIC
- SUBTYPE = HRZN_CONTR_MAP
- DESCRIPTION = Mackerel Prospect Structure Map Top
Latrobe Group
- REMARKS =
- DATE_CREATED = 31/05/1972
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = ESSO
- CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE604080

This is an enclosure indicator page.
The enclosure PE604080 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604080 has the following characteristics:

- ITEM_BARCODE = PE604080
- CONTAINER_BARCODE = PE904982
- NAME = Well Completion Log
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = COMPLETION_LOG
- DESCRIPTION = Mackerel 3 Well Completion Log.
Enclosure 1.1 from Well Summary Folder.
- REMARKS =
- DATE_CREATED = 18/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Esso Exploration and Production
Australia INC.
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE902783

This is an enclosure indicator page.
The enclosure PE902783 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE902783 has the following characteristics:

- ITEM_BARCODE = PE902783
- CONTAINER_BARCODE = PE904982
- NAME = Geological Cross Section A-A' Mackerel
3 Prospect
- BASIN = GIPPSLAND
- PERMIT =
- TYPE = WELL
- SUBTYPE = CROSS_SECTION
- DESCRIPTION = Geological Cross Section A-A' Mackerel
3 Prospect
- REMARKS =
- DATE_CREATED = 31/05/1972
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = ESSO
- CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902785

This is an enclosure indicator page.
The enclosure PE902785 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE902785 has the following characteristics:

- ITEM_BARCODE = PE902785
- CONTAINER_BARCODE = PE904982
- NAME = Time Depth Curve
- BASIN = GIPPSLAND
- PERMIT =
- TYPE = WELL
- SUBTYPE = VELOCITY_CHART
- DESCRIPTION = Time Depth Curve
- REMARKS =
- DATE_CREATED = 16/04/1972
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = ESSO
- CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

2.0 SAMPLE DESCRIPTIONS

Mackerel-3

4-4-72

A.J. Mebberson

01 OCT 1986

Rapid drilling 30' samples taken.

- 850-1000' - Marl very calcareous, light grey, abundant fossils especially shell fragments and bryozoal fragments
Fragments generally coarse (fines washed out), poorly consolidated
- 1000-1100' - Very fossiliferous marl; as above, trace cement
- 1100-1200' - Marl as above. (Skeletal Lst down to 2600')
- 1200-1600' - Marl as above.
- 1600-1700' - Marl as above, light grey - light buff, very fossiliferous as above including trace forams.
- 1700-1800' - Marl as above, distinct increase in discoid forams.
- 1800-2000' - Marl as above
- 2000-2100' - Marl, light grey, slightly sandy, very fine grained, abundant fragments, shells, bryzoa and forams, consolidation better than above, rudimentary cementing of grains, very calcareous.
- 2100-2300' - Marl as above
- 2300-2500' - Marl as above, slightly sandy - silty (very fine grained - silt), light grey to argillaceous, light grey marl, abundant shell fragments and bryzoa as above.
- 2500-2600' - Marl as above, slightly silty, numerous bryzoa, etc.
- 2600-2900' - Marl, light grey - light brown, argillaceous, soft-slightly firm, very calcareous, common fossils mainly forams.

Set 13 $\frac{3}{4}$ " casing @ 2900'

- 2900-3000' - 100% cement.
- 3000-3100' - 100% cement.
- 3100-3200' - 100% cement with pipe dope, shoe and rubber
- 3200-3300' - 100% cement as above
- 3300-3400' - 100% cement as above
- 3400-3500' - 100% cement as above with trace shell fragment. Hole may be washing out.
- 3500-3600' - 100% cement as above
- 3600-3650' - 100% cement as above, trace light brown, angular marl as above, very calcareous, trace quartz grains, iron stained, red, fractured, coarse.
- 3700-3900' - 80% cement (cavings) 20% light brown marl, very calcareous, argillaceous-slightly sandy with some free medium grain quartz grains.

Desilter shows very fine, very calcareous marl grains.

- 3900-4000' - 100% marl (great improvement in samples after trip) very calcareous, olive grey, angular, firm, no fossils.

Sample Descriptions
 Mebberson
 6 April 1972

- 4000-4100' - 100% Marl as above
- 4100-4200' - 100% Marl as above
- 4200-4400' - 100% Marl as above
- 4400-4600' - 100% Marl as above trace grey white, firm limestone/dolomite
- 4600-4800' - 100% Marl as above, trace limestone as above
- 4800-4900' - 100% Marl as above, slightly sandy in parts - quartz, fine grained, clear.
- 4900-5000' - 100% Marl as above, trace sandy marl, quartz very fine grained.
- 5000-5100' - 100% Marl olive grey, very calcareous, firm to soft, slightly quartz sandy in places
- 5100-5200' - 100% Marl as above
- 5200-5300' - 100% marl as above, slightly sandy in places, trace white limestone
- 5300-5400' - 100% marl as above, slightly sandy
- 5400-5500' - 100% marl as above
- 5500-5600' - 100% sandy marl as above
- 5600-5700' - 100% marl as above
- 5700-5800' - 100% marl, olive grey-grey-white, soft to moderately firm very calcareous, trace sandy in parts
- 5800-5900' - 100% marl as above very few forams
- 5900-6000' - 100% marl as above, slightly silty, occasional forams (globular tests)
- 6000-6100' - 100% marl, medium grey, firm to soft, very calcareous, trace silty, occasional angular quartz grains, abundant sandsize globular forams, trace pyrite
- 6100-6200' - 100% marl as above, trace quartz grains, abundant forams, trace pyrite
- 6200-6300' - 100% marl as above, abundant forams, trace pyrite
- 6300-6400' - 100% marl as above, abundant forams, trace pyrite
- 6400-6500' - 100% marl as above, abundant forams, trace pyrite
- 6500-6600' - 100% marl as above, no quartz, abundant forams, gummy
- 6600-6620' - 100% marl as above, slightly silty, gummy, forams, trace pyrite
- 6620-6630' - 100% marl as above
- 6630-6640' - 100% marl as above
- 6640-6670' - 100% marl as above, trace dolomite, light brown, hard, crystalline
- 6670-6700' - 100% marl as above, trace dolomite, as above, forams, pyrite
- Trip 6755 - did not circulate
- 6700-6830' - 100% marl as above with trace dolomite
- 6840-6850' - 100% marl as above with trace dolomite
- 6850-6860' - 100% marl as above with trace dolomite

10 April 1972

Mebbertson, Black, Sharrock

SAMPLE DESCRIPTIONS

- 6860-6870' - 80% Marl as above
20% Shale, medium grey, fissile
- 6870-6880' - 80% Marl as above
20% Shale as above
- 6880-6890' - 100% Marl as above
- 6890-6900' - 100% Marl as above, gummy, forams, trace pyrite, and shale as above
- 6900-6910' - 95% Marl as above
5% Shale as above
- 6910-6930' - 90% Marl as above
10% Shale as above
- 6930-6940' - 90% Marl - as above with trace fine to medium grained subrounded quartz
10% shale
- 6940-6960' - 60% Marl
40% Shale - medium grey, soft
- 6960-6980' - 20% Marl trace brown limestone
80% Shale as above
- 6980-6990' - 50% Marl
50% Shale as above
- 6990-7000' - 10% Marl
90% Shale - medium to light green, firm fissile, very fossiliferous, abundant forams, trace fine grained sand
- 7000-7010' - 40% Marl
60% Shale
- 7010-7030' - 20% Marl
80% Shale
- 7030-7040' - 20% Marl
80% Shale
- 7040-7050' - 50% Marl
50% Shale
- 7050-7060' - 100% shale - medium grey fissile
- 7060-7070' - 100% shale - as above with trace apple green shale
- 7070-7080' - 10% Marl
90% Shale as above

11 April 1972

Black, Mebberson,
Sharrock.

SAMPLE DESCRIPTION

7080-7090'	-	10% Marl 90% Shale
7090-7100'	-	10% Marl 90% Shale
7100-7200'	-	10% Marl 90% Shale
7120-7130'	-	30% Marl 70% Shale
7130-7140	-	40% Marl 60% Shale
7140-7150'	-	50% Marl 50% Shale
7150-7180'	-	60% Shale as above 40% Marl as above
7180-7190'	-	70% Shale as above 30% Marl as above
7190-7200'	-	50% Shale as above 50% Marl as above
7200-7210'	-	50% Shale as above 50% Marl as above
7210-7220'	-	50% Shale as above 50% Marl as above
7220-7230'	-	50% Shale as above 50% Marl as above
7230-7240'	-	50% Shale as above 50% Marl as above
7240-7250'	-	50% Shale as above: trace green shale 50% Marl as above
7250-7260'	-	60% Shale as above 40% Marl as above (large part this % age is cavings)
7260-7270'	-	60% Shale as above 40% Marl as above
7270-7280'	-	80% Shale as above 20% Marl as above

SAMPLE DESCRIPTIONS

- 7280-7290 - 60% shale as above
40% marl as above
- 7300-7310' - 70% shale as above, trace slightly glauconitic calcareous sand
30% marl as above
- 7310-7320' - 50% shale
50% marl
- 7320-7330' - 50% shale
50% marl
- 7330-7350' - 70% shale as above
30% marl as above
- 7350-7360' - 100% shale as above, trace sand
- 7360-7370' - 100% shale as above
- 7370-7380' - 100% shale as above
- 7380-7390' - 100% shale as above
- 7390-7400' - 100% shale
- 7400-7440' - 80% shale as above
20% marl as above
- POHCB
- 7440-7480' - 100% shale as above with trace bentonite?
- 7480-7490' - 100% shale as above trace bentonite, very calcareous firm.
- 7490-7500' - 100% shale, medium grey to brownish green, firm, platy in part, calcareous, some silty, trace of white soft bentonite
- 7500-7520' - 100% shale as above
- 7520-7540' - 100% shale as above
- 7540-7550' - 100% shale as above with trace green shale and trace glauconite
- 7550-7570' - 100% shale, medium grain with trace green shale platy, very bentonitic
- 7570-7580' - 100% shale as above, with abundant bentonite
- 7580-7590' - 100% shale as above, with abundant bentonite
- 7590-7610' - 100% shale as above with less bentonite
- 7610-7620' - 100% shale as above with abundant bentonite
- 7620-7650' - 100% shale as above with trace bentonite
- 7650-7680' - 100% shale as above with trace bentonite
- 7860-7690' - 100% shale as above with trace bentonite, trace pyrite
- 7690-7700' - 100% shale as above with trace bentonite, trace pyrite
- 7700-7730' - 100% shale as above, with abundant bentonite
- 7730-7740' - 100% shale as above with abundant bentonite

SAMPLE DESCRIPTIONS

MACKEREL-3

April 13, 17, 1972.

J. Black & G. Sharrock

- 7740 - 7760' 100% Shale as above with abundant Bentonite.
- 7760 - 7770' 100% Shale as above with abundant Bentonite.
- 7770 - 7780' 100% Shale as above.
- 7780 - 7790' 100% Shale as above with trace fine grained sand, subrounded.
- 7790 - 7800' 100% Shale with trace sand. Trace glauconite.
- 7780 - 7805' Unsacked Sample.
100% shale with trace of weathered iron stained sand (from Latrobe) detrital (weathered zone above Latrobe proper).
- 7805 - 7810' 80% Shale as above.
10% Sandstone, medium grained firm, dark red to yellow weathered, subangular, good fluorescence, trace glauconite.
- *TOP AT 7807' 10% Sand, fine-medium grained, with few coarse-very coarse, unconsolidated, subrounded, quartz, ferruginous, staining on the few very coarse and coarse grains present, light yellow fluorescence bluish cut with pale brown residue.
- 7810 - 7813' 70% Shale as above
30% Sand, coarse to very coarse with few medium grained subrounded poorly sorted, pyritic, yellow fluorescence, blue-yellow cut.
- 7813 - 7940 CORES # 1 - 4.
- 7950 - 7960' 90% Shale (cavings) consisting of medium grey shale and marl.
10% Sand, quartz grains clear, subangular to subrounded, medium to coarse grained.
- 7960 - 7980' 50% Sand, quartz, clear to frosty, very coarse to coarse, subrounded to subangular, generally unconsolidated.
50% Shale, cavings, medium grey, well rounded. Proportion of cavings grey marl.
- 7980 - 8000' 70% Sand, as above, subrounded, unconsolidated.
30% Shale, cavings, as above.
- 8000 - 8020' 70% Sand, quartz, as above.
30% Shale, as above.
- 8020 - 8040' 30% Sand, medium-coarse, quartz, subrounded to subangular, clear.
70% Shale, medium grained, firm, fissile.
- 8040 - 8060' 70% Sand, medium to very coarse, frosty quartz, subrounded, glauconitic, trace pyrite.
30% Shale, as above.
- 8060 - 8080' 70% Sand, as above, with trace glauconite and pyrite
30% Shale.
- 8080 - 8200' 100% Sand, frosty white, medium to very coarse subrounded quartz.
- 8100 - 8120' 100% Sand, clear, frosty quartz, subrounded to rounded, poorly sorted, medium to very coarse grains, unconsolidated.

Sample Descriptions continued

- 8120 - 8180' 100% Sand - as above.
- 8180 - 8200' 90% Sand - as above.
10% Shale - as above.
- 8200 --8220' 80% Sand, as above with trace glauconite, and pyrite.
20% Shale, as above
- 8220 - 8240' 90% Sand, as above with trace glauconite, and pyrite.
10% Shale, as above.
- 8240 - 8260' 100% Sand, as above
- 8260 - 8280' 100% Sand, as above
- 8280 - 8300' 100% Sand, as above
- 8300 - 8320' 100% Sand, as above
- 8320' - 8340' 100% Sand, medium-very coarse, frosty, white, quartz,
subrounded, with some quartz shards, poorly sorted,
subrounded to subangular.
- 8340 - 8360' 90% Sand - as above, trace white quartz, fluorescence,
fine grained, sandstone, with minor fluorescence.
10% Shale, medium grained, silty, with trace glauconite.
- 8360 - 8380' 80% Sand, medium-very coarse and pebbly (up to 1/4") with trace
sandstone as above.
20% Shale.
- 8380 - 8400' 50% Sand, as above
10% Sandstone, fine grained, friable.
40% Shale, medium grained, calcareous, firm, silty.
- 8400 - 8420' 10% Sand, medium-coarse, white quartz.
SHALE MARKER TOP 10% Sandstone, fine grained, friable non-calcareous.
AT 8405 FROM 80% Shale medium grained, calcareous, firm!
DRILL RATE.
- 8420 - 8440' 10% Sand
90% Shale as above
- 8440 - 8460' 100% Shale as above
- 8460 - 8480' 100% Shale, as above.
- 8480 - 8500' 100% Shale, as above
- 8500 - 8520' 10% Sand, as above
10% Sandstone, as above
80% Shale, as above
- 8520 - 8540' 30% Sand, as above
30% Sandstone, as above
40% Shale, as above
- 8540' - 8560' 40% Sand, as above
10% Sandstone, as above
50% Shale, as above
- 8560 - 8580' 40% Sand, as above
10% Sandstone, as above
50% Shale, as above

MACKEREL-3

April 13,-17, 1972

J. Black & G. Sharröck

Sample Descriptions continued

8580 - 8600' 40% Sand, as above, clear, frosty, poorly sorted, poorly consolidated.
10% Sandstone, quartzose, poorly sorted.
50% Shale, medium grey, pinkish grey, fissile.

8600'--8620' 40% Sand, as above with trace pyrite.
10% Sandstone, as above
50% Shale, as above.

8620 - 8637' TD 10% Sand, as above.
10% Sandstone, as above
80% Shale, as above.

BIT FROZE AT +8623' HIGH TORQUE

2.1 CORE DESCRIPTIONS

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 1

WELL: MACKEREL-3

Interval Cored 7813-7835 ft., Cut 22 ft., Recovered 18 ft., (82 %) Fm. LATROBE

Bit Type C-19 FACE DESC., Bit Size 8 15/32 X 4 in., Desc. by J.R. BLACK Date 13 APRIL '72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
			<p>7813-35 SANDSTONE - FROSTY WH, F/V. CRSE DTG, POORELY SORTED, SUBANG/SUBEND, FRIABLE, CLEAN, GOOD POR & PERM., V. GLAUCONITIC (UP TO 80% OF ROCK IS GLAUC. AVE. 5%) SCATTERED PYRITE THROUGHOUT CORE BUT IN THE FEW FIRM STREAKS PYRITE IS ABUNDANT. APPROXIMATELY 6' OF CORE IS UNCONSOLIDATED & TOO FRIABLE FOR POR & PERM DETERMINATION. GOOD YELLOW FLUOR., V. GOOD STREAMING CUT, LEAVING BRN. RESIDUE. GOOD OIL ODOR & FAIR STAIN. CENTER PART OF CORE HAS BEST FLUORESCENCE TENDING TO BE MUD FLUSHED ALONG OUTER EDGES.</p> <p>STREAKS OF V PYRITIC SAND THAT IS FIRMER THAN THE MAJOR PORTION OF THE CORE AND HAD AN UNPLEASANT (NOT H₂S) ODOR IMMEDIATELY AFTER RECOVERY FROM CORE BBL. AT: 7820-21, 7822-24 & 7826-27</p>	

REMARKS: CORE BBL JAMMED

← 4 TO 5" FULL DIAM. WAX PACKED CORE FOR EPRCO

←← 1 1/2 - 2" " " CORE FOR SIMULATED OVERBURDEN POR & PERM ANALYSIS

←←← CORE CHIPS FOR PALEO.

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 1

WELL: MACKERAL-3

Interval Cored 7813-7835 ft., Cut 22 ft., Recovered 18 ft., (82 %) Fm. LATROBE

Bit Type C-19 FP, Bit Size 8 15/32 x 4 in., Desc. by BLACK & SHARROCK Date 13 APRIL '72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
34 35 0 2 4 6 8				

JO
BASIC DATA

REMARKS:

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.....

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 2

WELL: MACKEREL-3

Interval Cored 7835-7869 ft., Cut 34 ft., Recovered 27 ft., (80 %) Fm. LATROBE

Bit Type C-19 F-D, Bit Size 8 15/32 X 4 in., Desc. by BLACK & SHARROCK Date 14th April 1972

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
55 0 2 4 6 8 60 62 65 69				

ESSO
BASIC DATA

REMARKS:

REMARKS: [Empty lines for notes]

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

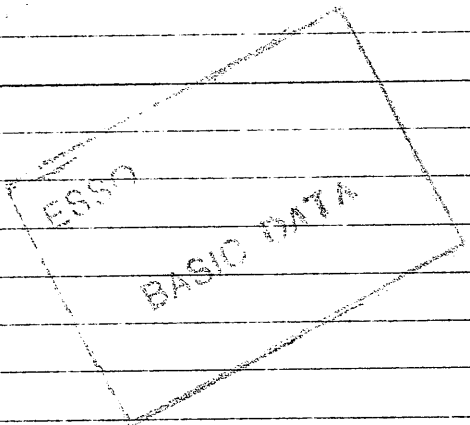
Core No. 3

WELL: MACKEREL-3

Interval Cored 7869-7890 ft., Cut 21 ft., Recovered 20 ft., (95 %) Fm. LATROBE

Bit Type C-19 F-D, Bit Size 8 1/32 X 4 in., Desc. by BLACK & SHARROCK Date 15th APRIL '72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
			<p>7869-7889</p>	<p>SANDSTONE m/y coarse FROSTY, WH QZ, V. POORLY SORTED, V. FRIABLE TR. GLAUCONITE, TR. mica, SUGARY TEXTURE, GOOD POR & PERM, GOOD ODOUR, FAIR STAIN GOOD BLuish-YELLOW FLUOR, GOOD CUT, LEAVING YELLOW-BRN. RESIDUE NO SED. STRUCTURES, MASSIVE, SHOWS NO GRADING, TR. MITE</p>



REMARKS:

- ← 4-5" FULL DIAM WAX PACKED CORE FOR EPRCo.
- ← 1 1/2-2" " " CORE FOR SIMULATED OVERBURDEN, POR. & PERM. ANALYSIS
- ←← CORE CHIPS FOR PALAEO

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 3

WELL: MACKEREL-3

Interval Cored 7869-7890 ft., Cut 21 ft., Recovered 20 ft., (95 %) Fm. LATROBE

Bit Type C-19 F-D , Bit Size 8 1/2 x 4 in., Desc. by BLACK & SHARROCK Date 15th APRIL '72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
89 90 				

REMARKS:

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. A

WELL: MACKEREL-3

Interval Cored 7890-7940 ft., Cut 50 ft., Recovered 40 ft., (80 %) Fm. LATROBE

Bit Type C-19 F-D, Bit Size 8 15/32 X 4 in., Desc. by BLACK & SHARROCK Date 17th April 72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology	
90			7890-99	SANDSTONE - Frosty wh. m/v. coarse Qtz, poorly sorted, subang/subrounded. Clean, friable. Good por. & perm. tr. glauconite, tr. pyrite. Good light yellow fluor, fair stain good cut and odor.	
95			7899-7900	SANDSTONE - as above but unconsolidated w/ no shows (Poss. lost some core at this point)	
99			7900-7901	SANDSTONE - as before but unconsolidated and v. friable	
7900			7901-7903 1/2	SANDSTONE - f.g. v. silty, carb, micaceous v. hard, indurated.	
			7903 1/2-7913 1/2	SANDSTONE - as at 7890 to 99 but wet (no shows).	
10					

150
 BASIC DATA

REMARKS:

- ← 4-5" FULL DIAM. WAX PACKED CORE FOR EPRCS
- ← 1 1/2-2" " " CORE FOR SIMULATED OVERBURDEN, POR & PERM. ANALYSIS
- ← ○ SATURATION SAMPLES (WAX PACKED)
- ← CORE CHIPS FOR PALAEO

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

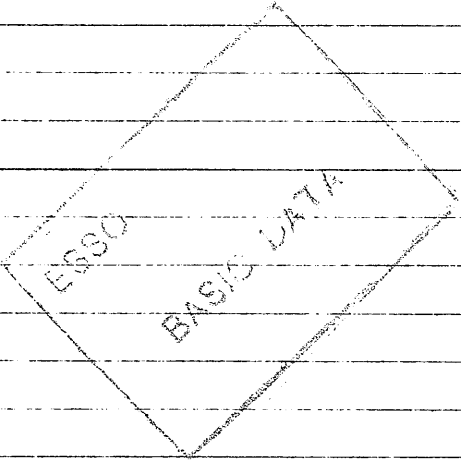
Core No. 4

WELL: MACKEREL-3

Interval Cored 7890-7940 ft., Cut 50 ft., Recovered 40 ft., (80 %) Fr. LATROBE

Bit Type C-19 F-0, Bit Size 8 15/32 X 4 in., Desc. by BLACK & SHARROCK Date 17th April '72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0				
5				
10				
13.2		←←←	7913.2" - 13.7"	SHALE - dk BR, v. SILTY, v. CARB. w/ FEW LEAF PRINTS, MICA, INDUR
13.7		←←←	7913.7" - 7914'	SANDSTONE - AS ABOVE
14		←←←	7914' - 7914.5'	SHALE - AS ABOVE
14.5		←←←	7914.5' - 7930'	SANDSTONE - FROSTY WH, GLAUC, F/M & QTZ sl. SILTY IN PLACES FRIABLE BUT FIRMER THAN HIGHER SANDSTONES. NO SHOWS.
20		←←←		
25		←←←		
30		←←←		



REMARKS:

- ← 4-5" FULL DIAM. WAX PACKED CORE FOR EPRG.
- ←← 1-1 1/2" " " CORE FOR SIMULATED OVERBOROEN, POR & PERM. ANALYSIS
- ←←← CORE CHIPS FOR PALAEO

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

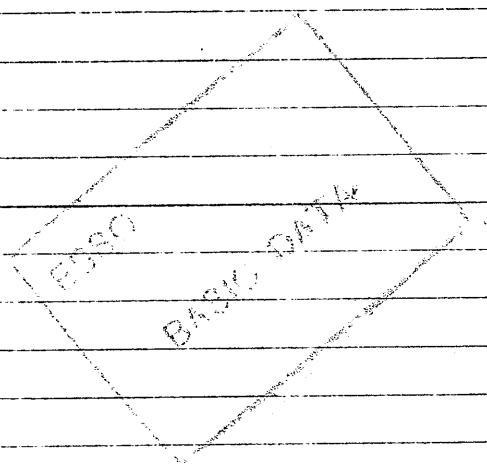
Core No. 4

WELL: MACKEREL-3

Interval Cored 7890-7940 ft., Cut 50 ft., Recovered 40 ft., (80 %) Fm. LATROBE

Bit Type C-19, P-0, Bit Size 8 1/32 x 4 in., Desc. by BLACK & SHARROCK Date 17th APRIL 72

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
			7930-7940	No RECOVERY



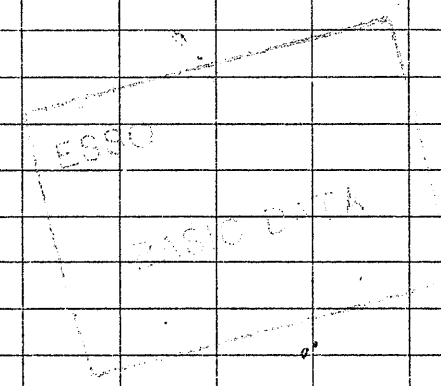
REMARKS:

Blank lined area for remarks.

2.2 SIDE WALL CORE DESCRIPTIONS

PAGE 1 OF 5 ATT 30 DATE 20/4/72 SWC RUN NO 1 IES RUN NO 1

Table with columns: NO., DEPTH, REC, ROCK TYPE, MODIFIERS, CAL, COLOR, INDUR DEG, GRAIN SIZE, SRTG, RND, DISS CLAY, STAIN, FLOURESCENCE (% RK, DISTR, INTEN, COLOR), CUT FLUOR. (INTEN, COLOR), CUT RESIDUE (QUAN, COLOR), SHOW, PROD, REMARKS. Rows 1a-21.



ESSO AUSTRALIA LTD.
 SIDEWALL CORE DESCRIPTIONS

WELL Mackere1-3
 GEOLOGIST J. Black
 SERVICE CO Schlumb

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	FND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE			CUT FLUOR.		CUT RESIDUE		SHOW 21	PROB PROD 22	REMARKS - GAS 23	
													% RK	DISTR 14	INTEN 15	COLOR 16	INTEN 17	COLOR 18	QUAN 19				COLOR 20
22	7803	1/2	SS	Wth'd V.tite Ferr. ox	-	Rd Brn	V. hard	M/ crs.	P	sr	-	-											Weather ZN.
23	7801	7/8	C91	Weath. ox. frag sh pyr w/glauc.	-	MTTL	Fri?	M/ peb	P	sr	30%	-											
24	7798	1 1/2	SH	Mass.	mod	M. GR.	FRM																Bentonitic
25	7786	1 1/2	SH	Mass.	V	M.Gr.	FRM																Bentonitic
26	7770	1 1/2	SH	Mass.	V	M.Gr.	FRM																"
27	7755	1 3/8	SH	Mass.	V	M.Gr.	FRM																"
28	7740	1 1/2	SH	Mass. Arg	V	M Gr.	FRM																V. Bentonitic
29	7725	1"	SH	Arg.	V	M Gr.	FRM																" "
30	7710	1"	SH	Marly	V	Lt Gr	HD.																

ESSO AUSTRALIA LTD.
SIDEWALL CORE DESCRIPTIONS

WELL Mackereel-3
GEOLOGIST J. Black
SERVICE CO Schlumb

IES RUN NO 1
SWC RUN NO 2

NO.	DEPTH	REC	ROCK TYPE	MODIFIERS	CAL	COLOR	INDUR DEG	GRAIN SIZE	SRTG	RND	DISS CLAY	STAIN	FLOURESCENCE			CUT FLUOR.		CUT RESIDUE		SHOW	PROB PROD	REMARKS GAS
				4									% RK	DISTR 14	INTEN 15	COLOR 16	INTEN 17	COLOR 18	QUAN 19			
1	7695	1"	SH	Marly	V	M Gr.	FRM															V. Bentonitic
2	7594	1 1/2	SH	Marly	V	M Gr.	FRM															V. Bentonitic
3	7502	1 1/2	SH	Marly	V	Lt Gr.	V. Firm															V. Bentonitic
4	7404	1 5/8	SH	Marly	V	M Gr.	FRM															V. Bentonitic
5	7350	1 1/2	SH	Sli Silty	V	M Gr.	FRM															V. Bentonitic
6	7292	1 1/2	SH	Glauc	V	Gr.	FRM															V. Bentonitic
7	7252	1 1/2	SH	Sli. glauc	V	Gr.	FRM															V. Bentonitic
8	7200	1 1/2	SH		V	Gr.	FRM															V. Bentonitic
9	7144	1 1/2	SH	Mass	V	Gr.	FRM															V. Bentonitic
10	7079	1 1/2	SH		V	Gr.	FRM															V. Bentonitic
11	6998	5/8	SH	Marly	V	Grn Gr	FRM															Sli Bentonitic
12	6800	3/4	SH		V	GrnGr	FRM															Sli Bentonitic
13	6596	1/2	Marl		V	LtGr	Soft															
14	6400	5/8	Marl		V	LtGr	Soft															
15	6200	1 1/4	Marl		V	LtGr	Soft															
16	6000	5/8	Marl		V	LtGr	Soft															
17	7805	0	NR																			

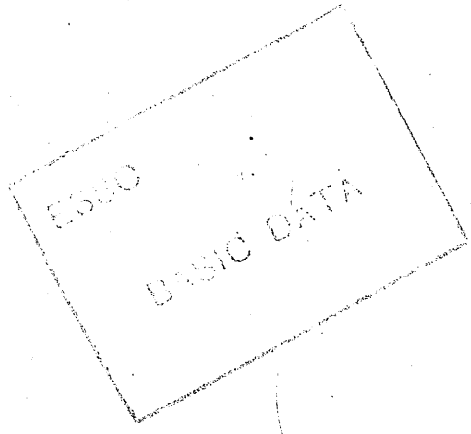
2.3 CORE ANALYSIS RESULTS

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Company Esso Formation _____ Page 1 of 1
 Well Mackerel No.3 Cores Diamond File AP-1-CA
 Field Wildcat Drilling Fluid _____ Date Report 28 Apl 72
 County _____ State Vic. Elevation _____ Analysts G.A.J.
 Location _____ Remarks Overburden Pressure ϕ and K

CORE ANALYSIS RESULTS
(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL		OIL % VOLUME	TOTAL WATER % PORE		
1.	7814	18.1		18.7				
2.	7824	13		17.2				
3.	7826	14		16.0				
4.	7831	1.7		14.9				
5.	7846	9.0		16.2				
6.	7856	6828		24.8				
7.	7862	659		17.8				
8.	7870	416		19.6				
9.	7879	378		18.4				
10.	7889	1369		20.6				
11.	7895	1239		21.8	23.1	35.6		
12.	7897	1241		24.4				Insufficient sample for saturation
13.	7899	7.7		13.5				" " "
14.	7901	1800		20.5	0.0	79.1		
15.	7903	437		24.1				" " "
16.	7906	1226		28.0	0.0	74.4		
17.	7910	2762		27.6				
18.	7920	560		24.0				
19.	7930	1183		22.1				



NOTE:
 (*) REFER TO ATTACHED LETTER.
 (1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.
 (2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.
 These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

TABLE 2
MACKEREL-3 CORE SAMPLES

	<u>DEPTH</u>		<u>DEPTH</u>		<u>DEPTH</u>
Core #1	7814	Core #3	7874	Core #4	7925
	7815	cont..	7875	cont..	7926
	7816		7876		7927
	7817		7877		7928
	7818		7878		7929
	7819		7879		7930
	7820		7880		
	7821		7881		
	7822		7882		
	7823		7883		
	7824		7884		
	7825		7885		
	7826		7886		
	7827		7887		
	7828		7888		
	7829		7889		
	7830				
	7831	Core #4	7891		
			7892		
Core #2	7836		7893		
	7837		7894		
	7838		7895		
	7839		7896		
	7840		7897		
	7841		7898		
	7842		7899		
	7843		7900		
	7844		7901		
	7845		7902		
	7846		7903		
	7847		7904		
	7848		7905		
	7849		7906		
	7850		7907		
	7851		7908		
	7852		7909		
	7853		7910		
	7854		7911		
	7855		7912		
	7856		7913		
	7857		7914		
	7858		7915		
	7859		7916		
	7860		7917		
	7861		7918		
	7862		7919		
			7920		
Core #3	7870		7921		
	7871		7922		
	7872		7923		
	7873		7924		

Petroleum Technology Laboratory, Bureau of Mineral Resources, Geology and Geophysics, Canberra

CORE ANALYSIS RESULTS

NOTE: (i) Unless otherwise stated, porosities and permeabilities were determined on two plugs (V&H) cut vertically and horizontally to the axis of the core. Ruska porosimeter and permeameter were used with air and dry nitrogen as the saturating and flowing media respectively. (ii) Oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates are recorded as Neg., Trace, Fair, Strong or Very Strong.

WELL NAME AND NO. MACKEREL NO. 3

DATE ANALYSIS COMPLETED 31st MAY, 1973

Core No.	Sample Depth		Lithology	Average Effective Porosity two plugs (% Bulk Vol.)	Absolute Permeability (Millidarcy)		Average Density (gm/cc.)		Fluid Saturation (% pore space)		Core Water Salinity (p.p.m. NaCl)	Acetone Test	Fluorescence of freshly broken core	Sample "cut" in tetrachlorethylene
	From	To			V	H	Dry Bulk	Apparent Grain	Water	Oil				
1	7815		Sst; m.gr. to v.c.gr.	17.0	200	169	2.27	2.74	10.9	6.0	N.D.	Strong	Good light blue	fair
1	7819		Sst; m.gr. to c.gr.pyr	24.3	N.D.	519	2.21	2.91	40.2	3.5	N.D.	Strong	yellow spotted	strong
1	7825		as above arg.	16.6	28	44	2.39	2.87	6.5	7.9	N.D.	fair	as above	fair
1	7830		as above v. arg	21.5	49	50	2.18	2.78	50.7	7.2	N.D.	fair	as above	fair
2	7836		as above	17.8	55	42	2.21	2.68	31.4	3.3	N.D.	strong	Blue-yellow spotted	fair
2	7844		Sst; v.f.gr. to m.gr.	16.7	12	23	2.19	2.65	30.0	3.4	N.D.	Trace	Good light blue-yellow	fair
2	7848		as above	10.4	0.85	1.9	2.39	2.67	10.8	2.6	N.D.	Trace	Trace	Trace
2	7853		Sst; m.gr. to v.c.gr.	20.7	N.D.	902	2.10	2.65	17.1	10.6	N.D.	Strong	Good light blue	Strong

Remarks: -

General File No. 72/2914

Well File No. _____

Petroleum Technology Laboratory, Bureau of Mineral Resources, Geology and Geophysics, Canberra

CORE ANALYSIS RESULTS

NOTE: (i) Unless otherwise stated, porosities and permeabilities were determined on two plugs (V&H) cut vertically and horizontally to the axis of the core. Ruska porosimeter and permeameter were used with air and dry nitrogen as the saturating and flowing media respectively. (ii) Oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates are recorded as Neg., Trace, Fair, Strong or Very Strong.

WELL NAME AND NO. MACKEREL NO. 3

DATE ANALYSIS COMPLETED 31st MAY 1973

Core No.	Sample Depth		Lithology	Average Effective Porosity two plugs (% Bulk Vol.)	Absolute Permeability (Millidarcy)		Average Density (gm/cc.)		Fluid Saturation (% pore space)		Core Water Salinity (p.p.m. NaCl)	Acetone Test	Fluorescence of freshly broken core	Sample "cut" in tetrachlorethylene
	From	To			V	H	Dry Bulk	Apparent Grain	Water	Oil				
2	7857		Sst; c.gr. to v.c.gr.	23.1	N.D.	3,111	1.98	2.66	18.0	7.3	N.D.	Strong	Good light blue	fair
2	7860		as above	25.6	N.D.	816	2.15	2.66	21.2	4.9	N.D.	Strong	As above	fair
3	7872		Sst; m.gr. to c.gr.	22.3	2,329	1,882	2.05	2.64	19.1	18.8	N.D.	Strong	As above	Strong
3	7876		Sst; m.gr. to v.c.gr.	19.1	N.D.	440	2.15	2.65	20.4	20.4	N.D.	Strong	As above	Strong
3	7882		As above	21.5	N.D.	622	2.15	2.74	0	9.2	N.D.	fair	Light blue	fair
3	7889		Sst; f.gr. to v.c.gr.	21.1	N.D.	1,366	2.07	2.62	11.3	34.8	N.D.	Strong	fair spotted yellow	strong
4	7893		Sst; m.gr. to c.gr.	22.1	N.D.	897	2.09	2.68	0	11.5	N.D.	fair	Good light blue	strong
4	7899		Sst; f.gr. to m.gr.	16.7	N.D.	6.8	2.31	2.77	28.8	Tr	N.D.	Trace	trace spotted yellow	Nil

Remarks: -

General File No. 72/2914
Well File No. _____

Petroleum Technology Laboratory, Bureau of Mineral Resources, Geology and Geophysics, Canberra

CORE ANALYSIS RESULTS

NOTE: (i) Unless otherwise stated, porosities and permeabilities were determined on two plugs (V&H) cut vertically and horizontally to the axis of the core. Ruska porosimeter and permeameter were used with air and dry nitrogen as the saturating and flowing media respectively. (ii) Oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates are recorded as Neg., Trace, Fair, Strong or Very Strong.

WELL NAME AND NO. MACKEREL NO. 3

DATE ANALYSIS COMPLETED 31st MAY, 1973

Core No.	Sample Depth		Lithology	Average Effective Porosity two plugs (% Bulk Vol.)	Absolute Permeability (Millidarcy)		Average Density (gm/cc.)		Fluid Saturation (% pore space)		Core Water Salinity (p.p.m. NaCl)	Acetone Test	Fluorescence of freshly broken core	Sample "cut" in tetrachlorethylene
	From	To			V	H	Dry Bulk	Apparent Grain	Water	Oil				
4	7903		Sst; m.gr. to c.gr.	12.3	18	0.71	2.38	2.66	7.1	Tr	N.D.	Nil	Nil	Nil
4	7909		Sst; m.gr.	27.1	N.D.	1,306	1.92	2.64	69.6	Nil	N.D.	Nil	Nil	Nil
4	7916		Sst; m.gr. to c.gr.	26.6	N.D.	1,443	1.93	2.64	33.1	Nil.	N.D.	Nil	Trace spotted yellow	Nil
4	7919		As above	25.6	N.D.	376	1.99	2.68	45.9	Nil	N.D.	Nil	As above	Nil
4	7922		As above	22.9	N.D.	N.D.	2.08	2.69	58.6	Tr	N.D.	Nil	Nil	Nil
4	7930		Sst; m.gr. to c.gr.	23.4	218	786	2.04	2.64	39.8	Nil	N.D.	Nil	Nil	Nil

Remarks: -

General File No. 72/2914
Well File No. _____

3.0 PALYNOLOGY / PALAEOONTOLOGY

PALYNOLOGY OF
MACKEREL-3
GIPPSLAND BASIN

by

A.D. PARTRIDGE

ESSO AUSTRALIA LTD.

INTERPRETATION

INTRODUCTION

Samples from Mackerel-3 were received for palynological analysis during April, 1972. No samples of suitable lithology for palynology were present in the first 100 feet of the Latrobe Group. Deeper samples from 7903 feet to 8587 feet contained good spore-pollen and dinoflagellate assemblages referable to the upper part of the Paleocene L. balmei Zone

SUMMARY

<u>Sample</u>	<u>Depth (in feet)</u>	<u>Zone</u>	<u>Age</u>
SWC 24	7798	<u>P. tuberculatus</u>	Oligocene
SWC 23	7801	Sample barren	-
SWC 20	7807	" "	-
SWC 19	7826	" "	-
SWC 18	7835	" "	-
Core	7844	" "	-
Core	7903	<u>L. balmei</u>	Paleocene
Core	7914½	"	"
SWC 13	7915	"	"
SWC 12	7975	"	"
SWC 11	8052	"	"
SWC 5	8383	"	"
SWC 4	8449	"	"
SWC 3	8482	"	"
SWC 2	8519	"	"
SWC 1	8587	"	"

COMMENTS

All fossiliferous samples from the Latrobe Group contain dinoflagellates as well as spores and pollen.

The SWC at 7798 feet contain spores, pollen and dinoflagellates indicative of the P. tuberculatus Zone, which is in agreement with the possible J1 or I1 age as determined from the planktonic foraminiferal data.

The samples assigned to the L. balmei Zone contain well preserved spore-pollen assemblages although the species diversity is not high, particularly in the samples 7903 feet to 7915 feet.

The assemblages from Mackerel-3 show good agreement in spore, pollen and dinoflagellate species content with the L. balmei Zone samples from Mackerel-2.

INTERPRETATIVE

BASIN GIPPSLAND

DATE _____

WELL NAME MACKEREL -3

ELEVATION +32 feet

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
Eocene	<u>P. tuberculatus</u>	7798	0				7798	0			
	<u>U. N. asperus</u>										
	<u>M. N. asperus</u>										
	<u>L. N. asperus</u>										
	<u>P. asperopolus</u>										
	<u>U. M. diversus</u>										
	<u>M. M. diversus</u>										
	<u>L. M. diversus</u>										
PALEOCENE	<u>U. L. balmei</u>	7903	0				8052	1			
	<u>L. L. balmei</u>	8383	1				8587	0			
	<u>T. longus</u>										
CRETACEOUS	<u>T. lilliei</u>										
	<u>N. senectus</u>										
	<u>C. trip./T.pach.</u>										
	<u>C. distocarin.</u>										
	<u>T. pannosus</u>										
LY CRETACEOUS											
PRE-CRETACEOUS											

COMMENTS:

Dinoflagellate Zones:

Wetzeliella homomorpha 7903 (1) - 7915 (1)

Eisenackia crassitabulata 8449 (1) - 8587 (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.

BASIN Gippsland Basin

DATE _____

WELL NAME Mackerel -3

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
OLIG. MIOC.	<u>T. bellus</u>										
	<u>P. tuberculatus</u>	7798	0				7798	0			
Eocene	<u>U. M. asperus</u>										
	<u>L. N. asperus</u>										
	<u>P. asperopolus</u>										
	<u>U. M. diversus</u>										
	<u>L. M. diversus</u>										
PALEO-CENE	<u>L. balnei</u>	7903	1				8587	1			
	<u>T. longus</u>										
LATE CRETACEOUS	<u>T. lilliei</u>										
	<u>N. senectus</u>										
	<u>C. trip./T.pach.</u>										
	<u>C. distocarin.</u>										
	<u>T. pannosus</u>										
EARLY CRETACEOUS	<u>C. paradoxa</u>										
	<u>C. striatus</u>										
	<u>U. C. hughesii</u>										
	<u>L. C. hughesii</u>										
	<u>C. stylosus</u>										
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: A. D. Partridge

DATE 9th May 1972

DATA REVISED BY: _____

DATE _____

BASIN GIPPSLANDBY D.J. TAYLORWELL NAME MACBEREEL-3DATE 14/6/72

ELEV. _____

643

Foram Zonules

		Highest Data	Quality	2 Way Time	Lowest Data	Quality	2 Way Time
MIOCENE	A	Alternate					
	B	Alternate					
	C	Alternate					
	D	Alternate					
	D ₁	Alternate	6998	2	6993	2	
	D ₂	Alternate	7074	1	7200	0	
	E	Alternate	7252	2	7292	0	
	F	Alternate	7350	0	7404	0	
	G	Alternate	7502	0	7594	0	
	H ₁	Alternate	7695	1	7740	1	
	H ₂	Alternate	7755	1	7786	0	
	OLIGOCENE	I ₁	Alternate				
I ₂		Alternate					
J ₁		Alternate	7801	1	7803	0	
J ₂		Alternata					
EOC.	K	Alternate					
	Pre K						

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 14/6/72By BJT/ADP

4.0 HYDROCARBON REPORT -

- - SUBSURFACE OIL MARKEREL-3 WELL

ESSO PRODUCTION RESEARCH COMPANY

HYDROCARBON REPORT -- SUBSURFACE OIL
MACKEREL 3 WELL
ESSO AUSTRALIA LTD.

G. T. Pyndus
W. F. Muzacz
C. N. Burris
H. W. Faulkner
C. V. Simmons

Production Engineering Division

JULY 1972

EPR.88PS.72

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Hydrocarbon Analysis of Subsurface Oil Sample	2
Comparison of Experimental and Computed Atmospheric Flash Liberation Results	3
Density of Subsurface Oil Sample versus Pressure and Temperature	4

Mackerel No. 3 Subsurface Oil Sample

Source: Esso Australia Ltd., Mackerel No. 3 Well

Sampling Data:

Sample was taken at 7815 ft. MDKB in segregator chamber of Schlumberger F.I.T. tool and transferred into three containers for shipping.

Saturation Pressures of Individual Portions of
Sample at 220°F

<u>Container No.</u>	<u>Bubble Point at 220°F, psig</u>
500	337
888	352
1572	328

Saturation Pressures for Combined Sample

<u>Psig</u>	<u>°F</u>
153	60
165	75
220	140
276	180
335	220

TABLE I

Hydrocarbon Analysis of Subsurface Oil Sample

Source: Esso Australia Ltd., Mackerel No. 3 Well

<u>Component</u>	<u>Weight Percent</u>	<u>Density, gm/cc at 60°F</u>	<u>Molecular Weight</u>
Hydrogen Sulfide	-		
Carbon Dioxide	0.10		
Nitrogen	0.01		
Methane	0.52		
Ethane	0.98		
Propane	3.72		
Iso-Butane	1.78		
N-Butane	3.12		
Iso-Pentane	1.93		
N-Pentane	2.14		
Hexanes	4.39	0.6970	89
Heptanes	6.84	0.7395	102
Octanes	6.73	0.7589	114
Nonanes	4.98	0.7769	129
Heavier Fraction	<u>62.76</u>	0.8446	216
Total	100.00		
Pentane-Free Fraction		0.8125	170

Residual Crude Oil at 0 Psig and 75°F

Wax Content	16.6% by Wt.
Sulfur Content	-
Pour Point	65°F
Cloud Point	71°F

Comparison Experimental and Computed Flash Liberation Results
Subsurface Oil Sample

Source: Esso Australia Ltd., Mackerel No. 3 Well

Date Taken:

(P ₁) Pressure psig	Temperature °F	Gas-Oil Ratio - cu ft/bbl Residual Oil				Residual Oil Gravity °API at 60° F		V _R /V _S	
		Flashed at P ₁		Flashed from P ₁ to 0		Experimental	Computed	Experimental	Computed
		Experimental	Computed	Experimental	Computed				
0	75	197	198	-	-	47.0	46.9	0.8059	0.8062

Data Used in Flash Calculations

Subsurface Oil Sample

Component	Mol %	gal/mol
Hydrogen Sulfide	nil	
Carbon Dioxide	0.29	6.40
Nitrogen	0.04	
Methane	4.10	
Ethane	4.09	
Propane	10.58	
Iso-Butane	3.84	
N-Butane	6.73	
Iso-Pentane	3.36	
N-Pentane	3.72	
Hexanes	6.18	15.30
Heptanes	8.41	16.57
Octanes	7.40	18.07
Nonanes	4.84	19.87
Heavier Fraction	36.42	30.79
Total	100.00	

K-value Source: NGAA (1957)
Convergence Pressure: 5281

Unadjusted Flash Data

Molecular weight of heavier fraction	216
Density of heavier fraction, gm/cc at 60° F	0.8446
Specific volume of reservoir fluid at 335 psig bubble point and 220° F, cu ft/lb	0.02324
Mols per barrel	1.927

Alpha 1 = 1.1339
Alpha 2 = 1.0635

Computed data were obtained using a plus 1/2%
correction to the C10+ density.

TABLE III

Density of Subsurface Oil Sample
versus Pressure and Temperature

Source: Esso Australia Ltd., Mackerel No. 3 Well

<u>Pressure,</u> <u>psig</u>	<u>Density,</u> <u>gm/cc at 220°F</u>	<u>Density,</u> <u>gm/cc at 180°F</u>	<u>Density,</u> <u>gm/cc at 140°F</u>	<u>Density,</u> <u>gm/cc at 60°F</u>
4000	.7216 ⁵³	.7369 ⁵³	.7520 ²⁵	.7895 ²⁵
3500	.7183 ⁵³	.7339 ⁵³	.7495 ²⁵	.7873 ²⁵
3000	.7150 ⁵³	.7310	.7465	.7851
2000	.7074	.7245	.7397	.7802
1000	.6992	.7172	.7321	.7745
800	.6974	.7153	.7304	.7731
600	.6951	.7142	.7288	.7713
400	.6925	.7127	.7271	.7699
335	Ps = .6891	-	-	-
300	.6929	.7119	-	-
276	-	Ps = .7118	-	-
220	-	-	567 psig Ps = .7249	-
200	.7039	.7202	.7280	.7686
155	-	-	-	Ps = .7681
100	.7148	.7312	.7434	.7763
0	.7258	.7423	.7588	.7919

4.1 ANALYSIS OF OIL FROM MACKEREL-3



COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

CNR. CONSTITUTION AVENUE AND ANZAC PARADE, CANBERRA

Postal Address: Box 378, P.O. Canberra City 2601

Telephone: 49 9111 Telegrams: Buromin Telex: 62109



In reply please quote: 69/1302

Department of Mines,
West Tower,
Princes Gate,
171 Flinders Street,
MELBOURNE. VIC. 3000

15 JUN 1972

Attention: Mr G.F. Hazzard

l

Dear Sir,

Mackerel No.3

... Please find enclosed an analysis of the oil from the Mackerel No.3 well. The correlation indices indicate that the oil is intermediate in composition between the Kingfish and Halibut oils (see attached figure).

We trust the information will be of interest to you.

Yours faithfully,

A.S. Taylor-Rogers

Aa (L.C. NOAKES)

Assistant Director (Mineral Resources)

*~~Ans. the file~~
Will file*

Alta Hazzard

Well Mackerel No.3
Sample Oil
Depth 7855 feet

A.P.I. Gravity at 60°F 47.0°

Sulphur % 0.078%

Preliminary Distillation (IP24/55)

Initial Boiling Point (first drop) 27°C

5 % off at 64° Centigrade
10% off at 92°
20% off at 114°
30% off at 162°
40% off at 210°
50% off at 262°
60% off at 306°
70% off at 350°

Distillation stopped at 350°C

Residue 21.3%
Distillate 71.5%
Loss 7.2% (probably light ends)
100.0%

U.S.B.M. Correlation Indices

Fraction 100-150°C	A.F.I. Gravity 55.8	G.I. 24
150-200°C	47.8	26
200-250°C	42.6	27
250-300°C	37.6	30
300-350°C	36.3	25
Residue	31.2	-

Composition of Combined Fractions Boiling above 250°C

% Asphalt 0.31
% Paraffins and naphthenes 88.1
% Aromatics 9.1
*% ONS compounds 2.6

* Recovered oxygen nitrogen and sulphur bearing compounds

Summary of Composition

Residue and lubricating oils (above 350°C) 21.3%
Distillate and diesel oil (280-350°C) 16.0%
Kerosine (200-280°C) 16.0%
Motor Spirit (below 200°C) 38%+

Correlation indices and composition of > 250 fractions indicate a paraffinic base.

5.0 SOUTH CHANNEL MAPPING REPORT

(ESSO)

By. D. CARRAD

TABLE: 1 DEPTH TO MAPPED HORIZONS

"SOUTH CHANNEL
MAPPING REPORT"
BY ESSO. (D. GAARAD)

14 JUN 1988

DEPTH (MSS) 14 JUN 1988

Doc. 2927L/10

HORIZON	CODE	EAST									
		TERAGLIN-1	HALIBUT-1	PILOTFISH-1A	HALIBUT-1	FLOUNDER-1	FLOUNDER-2	FLOUNDER-3	FLOUNDER-6	MACKERAL-1	MACKERAL-3
Water bottom	0001	79	85	206	72	87	99	111	93	98	100
Miocene unit	1000	nl	684	nl	497	615	628	820	218	556	nl
" " "	1200	nl	827	1179	748	719	806	1040	817	826	863
" " "	1520	996	1015	1436	1066	848	879	1233	889	1210	1182
" " "	1300	1077	1121	1565	1186	927	940	t	956	1396	1371
" " "	1350	1302	1501	1619	1587	1136	1193	1288	1213	np	np
" " "	1400	1583	1791	1914	np	1287	1348	t	1369	np	np
" " "	1450	1732	1919	2153	np	1393	1436	1457	1427	np	np
Base of Limestone	1500	2024	1968	2352	1758	1603	1702	1718	1630	1661	1770
Lakes Entrance Fm	1600	2114	2146	2520	2058	1787	1813	1829	1853	2139	2145
" " "	1700	2279	2284	2622	2173	np	np	-	np	2297	2304
Top of Latrobe	2000	2400	2374	2894	2275	1899	1938	1967	1907	2376	2368
Base Marlin Chan.	2100	2406	nt	2904	nt	nt	nt	nt	nt	t	t
61Ma Unconformity	2610	2647	np	t	2840	t	t	t	t	2751	np
63Ma Unconformity	2680	2842	np		3032	2400	2408	2407	2368	2885	np
68Ma Unconformity	2680	2974	np		np	2540	2536	2544	2745	2956	np
<u>Intra-T. Longus</u>											
Seismic Marker	2710	3281	np	3122	np	2791	np	np	np	np	np

NOTE: nl - not logged
np - not penetrated
t - truncated

APPENDIX 1

RAYVNMO MODELLING

14 JUN 1988

The RAYVNMO program uses interval thickness and interval velocity pairs to perform raytracing. The program assumes a simple layercake model, and therefore gives no indication of dip effects and raypath distortions that may be inherent in the real data. An anisotropy factor may be included in any layer. Cable parameters are input according to the parameters used by the particular seismic survey being matched.

Results of the RAYVNMO raytracing are given in the following table.

An anisotropy factor (k) of 1.0 was used in the Lakes Entrance Formation (between 1500 and 2000).

WELL NAME	TERAGLIN-1			EAST HALIBUT-1			PILOTFISH-1A			
	HORIZON Code	Z above	VINT above	VNMO	Z above	VINT above	VNMO	Z above	VINT above	VNMO
0001	79	1480	1480	85	1480	1480	206	1480	1480	
1000				599	2303	2209				
1200				143	2860	2338	973	2446	2263	
1250	917	2490	2404	188	3159	2484	257	3253	2429	
1300	81	3115	2460	106	3072	2526	129	3685	2522	
1350	225	3571	2648	380	3707	2790	54	3724	2555	
1400	281	3512	2777	290	3625	2900	295	3734	2704	
1450	149	3634	2837	128	4000	2961	239	3464	2772	
1500	292	3539	2923	49	3500	2973	199	3184	2817	
1600	90	3333	2942	178	3236	2996	168	3111	2812	
1700	165	2973	2950	138	3000	3000	102	2615	2831	
2000	121	3361	2969	90	3214	3011	272	3126	2849	

* TABLE CONTINUED OVER.

APPENDIX 1 CONTINUED**14 JUN 1968**

WELL NAME HORIZON Code	MACKEREL-1			MACKEREL-3		
	Z above	VINT above	VNMO	Z above	VINT above	VNMO
0001	98	1480	1480	100	1480	1480
1000	458	2195	2091			
1200	270	2784	2329	762	2490	2371
1250	384	2833	2449	319	2774	2468
1350						
1400						
1450						
1500	265	3581	2718	399	3746	2830
1600	478	3274	2844	375	3318	2915
1700	158	2926	2854	159	3057	2931
2000	79	2981	2862	64	3047	2934

APPENDIX 1 CONTINUED

Doc. 29271/14

14 JUN 1988

WELL NAME HORIZON Code	HALIBUT-1			FLOUNDER-1			FLOUNDER-2			FLOUNDER-3			FLOUNDER-6		
	Z above	VINT above	VNMO	Z above	VINT above	VNMO	Z above	VINT above	VNMO	Z above	VINT above	VNMO	Z above	VINT above	VNMO
0001	72	1480	1480	88	1480	1480	99	1480	1480	111	1480	1480	93	1480	1480
1000	426	2201	2123	527	2234	2149	528	2211	2111	709	2419	2301	524	2185	2094
1200	252	3231	2573	167	2738	2305	178	2871	2311	220	3142	2499	199	2745	2271
1250	317	3202	2695	66	3000	2373	73	3174	2387	193	3477	2640	72	3200	2368
1300	120	3076	2719	79	3038	2421	62	3100	2423				67	3116	2406
1350	401	3713	2932	209	3190	2544	252	3252	2564	55	3235	2658	257	3294	2563
1400				151	3471	2641	155	3299	2634			156	3319	2613	
1450				106	3365	2683	88	3385	2670	169	3347	2718	58	3412	2657
1500	171	3842	3007	210	3043	2715	266	3148	2730	261	3089	2759	203	3147	2705
1600	300	3209	3040	184	319	2755	111	3171	2757	111	3041	2776	223	3186	2762
1700	105	3134	3047												
2000	111	3083	3053	112	3200	2782	125	3205	2787	138	2968	2785	54	3176	2774

TABLE CONTINUED OVER

TABLE 2. WELL TWO-WAY-TIMES AND LAGS TO LATROBE HORIZONS

14 JUN 1968
Doc. 2927L/11

14 JUN 1968

HORIZON	TOP OF LATROBE (2000)			61MA (2610)			65MA (2635)			68MA (2680)			INTRA-T. LONGUS (2710)		
	DEPTH (MSS)	TRUE TWT	LAG (TWT)	DEPTH (MSS)	TRUE TWT	LAG (TWT)	DEPTH (MSS)	TRUE TWT	LAG (TWT)	DEPTH (MSS)	TRUE TWT	LAG (TWT)	DEPTH (MSS)	TRUE TWT	LAT (TWT)
TERAGLIN-1	2400	1.700	24	2647	1.828	25	2842	1.932	23	2974	1.994	31	3281	2.143	24
EAST HALIBUT-1	2374	1.662	5	np	-	-	np	-	-	np	-	-	np	-	-
PILOTFISH-1A	2894	2.146	18	t	-	-	t	-	-	-	-	-	3122	2.265	25
HALIBUT-1	2275	1.602	7	2.840	1.906	14	3032	2.002	-	np	-	-	np	-	-
FLOUNDER-1	1899	1.439	20	t	-	-	2400	1.734	-	2510	1.793	30	2791	1.947	30
FLOUNDER-2	1938	1.472	20	t	-	-	2408	1.746	-	2536	1.812	20	np	-	-
FLOUNDER-3	1967	1.468	15	t	-	-	2407	1.726	-	2544	1.806	24	np	-	-
FLOUNDER-6	1907	1.451	28	t	-	-	2368	1.711	-	2474	1.769	31	np	-	-
MACKEREL-1	2376	1.716	21	2751	1.916	22	2885	1.982	-	2956	2.02	28	np	-	-
MACKEREL-3	2368	1.696	-8*	np	-	-	np	-	-	np	-	-	np	-	-

* The anomalous lag at Mackerel-3 may be due to poor checkshot data. To avoid creating an anomalous trend on the Vavg map seismic time (lagged) was used to calculate Vavg at Mackerel-3

TABLE 3: VELOCITIES AND CONVERSION FACTORS TO TOP OF LATROBE GROUP

14 JUN 1988

<u>WELL</u>	<u>VNMO</u>	<u>VAVG</u>	<u>CF</u>
Teraglin-1	2995	2823	0.9426
East Halibut-1	3019	2857	0.9463
Polotfish-1A	2855	2697	0.9447
Halibut-1	3010	2840	0.9435
Flounder-1	2775	2639	0.9510
Flounder-2	2772	2633	0.9500
Flounder-3	2717	2680	0.9513
Flounder-6	2780	2628	0.9426
Mackerel-1	2930	2775	0.9471
Mackerel-3	2970	2835	0.9545

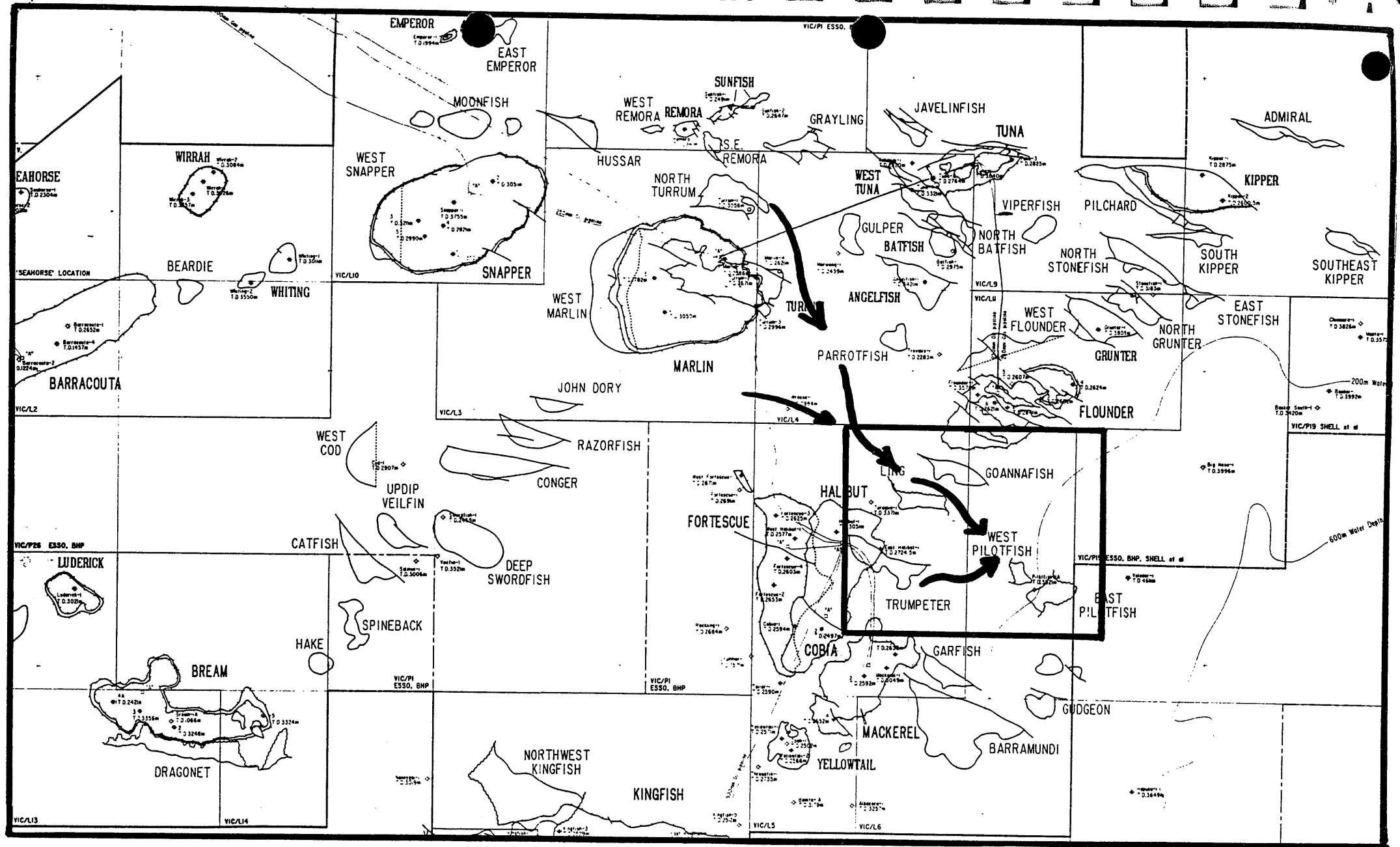


FIG. 1 : Locality map. Arrows indicate trend of Marlin Channel, and Top Latrobe Group channelling.

14 JUN 1988

6.0 FORMATION INTERVAL TEST (F.I.T.)

DATA

ESSO AUSTRALIA LIMITED

MACKEREL

MACKEREL No. 3
APRIL 18-21, 1972

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH KUSTER GUAGE FROM
SCHLUMBERGER FORMATION INTERVAL TESTER.

TOOLS USED: ONE KUSTER 6,200 PSI SERIAL No. 15629-N 12 HOUR CLOCK
ONE KUSTER 8,000 PSI SERIAL No. 3969-N 12 HOUR CLOCK
ONE KUSTER 10,250 PSI SERIAL No. 8757 12 HOUR CLOCK

OPERATION SCHEDULE

HOURS

REMARKS

APRIL 18, 1972

0730

DEPART LONGFORD

0830

ARRIVE GLOMAR CONCEPTION - STAND BY LOGGING.

APRIL 19, 1972

0001

TRIP TO CONDITION HOLE

APRIL 20, 1972

0001

LOGGING

1300

PERFORM FORMATION INTERVAL TEST No. 1 @ 7,900'

1500

PERFORM FORMATION INTERVAL TEST No. 2 @ 7,909'

1800

PERFORM FORMATION INTERVAL TEST No. 3 @ 7,859'

2100

PERFORM FORMATION INTERVAL TEST No. 4 @ 7,819'

2300

RIG DOWN AND SECURE GEAR.

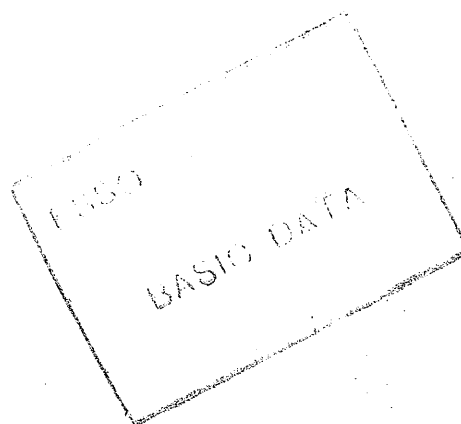
APRIL 21, 1972

0845

DEPART GLOMAR CONCEPTION

1000

ARRIVE LONGFORD



OPERATOR: GEORGE DONEMAN

ESSO AUSTRALIA LIMITED

MACKEREL

MACKEREL No. 3
 APRIL 20, 1972

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH KUSTER GAUGE FROM SCHLUMBERGER FORMATION INTERVAL TESTER.

TOOLS USED: ONE KUSTER 6,200 PSI SERIAL No. 15629-N 12 HOUR CLOCK
 ONE KUSTER 8,000 PSI SERIAL No. 3969-N 12 HOUR CLOCK
 ONE KUSTER 10,250 PSI SERIAL No. 8757 12 HOUR CLOCK

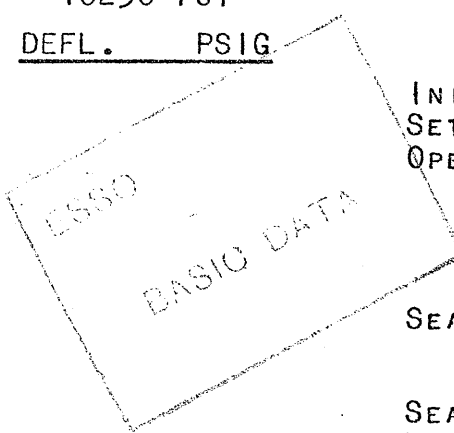
F.I.T. TEST No. 1 @ 7,900' RT

HOURS	6,200 PSI		8,000 PSI		REMARKS
	DEFL.	PSIG	DEFL.	PSIG	
1308	1.343	4176	---	---	INITIAL HYDROSTATIC SET PACKER
1310	.493	1533	.517	2058	OPEN TOOL
1312	.493	1533	.469	1868	
1314	.493	1533	.436	1736	
1316	.461	1434	.411	1636	
1318	1.069	3325	.895	3564	
1320	1.095	3406	.904	3598	SEAL VALVE
1322	1.095	3406	.904	3598	OPEN SEGREGATOR
1324	1.092	3396	.861	3428	
1326	1.092	3396	.861	3428	
1328	1.092	3396	.861	3428	SEAL SEGREGATOR
1329					UNSEAT PACKER
1330	1.334	4148	1.050	4188	FINAL HYDROSTATIC

NOTE: 8,000 PSI GAUGE APPEARED TO BE BLOCKED WHEN TOOL WAS FIRST OPEN.

F.I.T. TEST No. 2 @ 7,909' RT

HOURS	8,000 PSI		10250 PSI		REMARKS
	DEFL.	PSIG	DEFL.	PSIG	
1533	1.059	4224			INITIAL HYDROSTATIC SET PACKER
1535	---	---			OPEN TOOL
1537	.694	2764			
1539	.677	2696			
1541	.658	2620			
1543	.881	3508			
1545	.882	3512			
1547	.882	3512			SEAL VALVE - OPEN SEGREGATOR
1549	.858	3416			
1550	.858	3416			SEAL SEGREGATOR
1551					UNSEAT PACKER
	1.048	4179			FINAL HYDROSTATIC



NOTE: 10,250 PSI CHART WAS UNREADABLE CAUSED BY LOOSE STYLUS BACK SPRING.

ESSO AUSTRALIA LIMITED

MACKEREL

MACKEREL No. 3
 APRIL 20, 1972

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH KUSTER GAUGE FROM
 SCHLUMBERGER FORMATION INTERVAL TESTER.

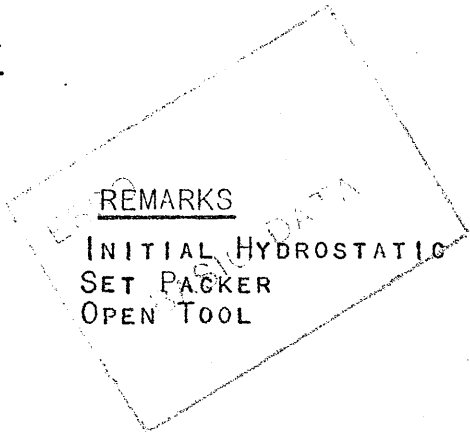
TOOLS USED: ONE KUSTER 6,200 PSI SERIAL No. 15629-N 12 HOUR CLOCK
 ONE KUSTER 8,000 PSI SERIAL No. 3969-N 12 HOUR CLOCK
 ONE KUSTER 10,250 PSI SERIAL No. 8757 12 HOUR CLOCK

F.I.T. No. 3 @ 7,859' RT

HOURS	8,000 PSI		10250 PSI		REMARKS
	DEFL.	PSIG	DEFL.	PSIG	
	1.047	4176	.782	4153	INITIAL HYDROSTATIC
1834					SET PACKER
1836					OPEN TOOL
1838					FIRE SHAPE CHARGE
1840	.843	3356	.629	3339	
1842	.843	3356	.637	3381	
1844	.856	3408	.637	3381	
1846	.856	3408	.637	3381	
1848	.857	3412			SEAL VALVE - OPEN SEGREGATOR
1850	.860	3424			SEAL SEGREGATOR
	1.051	4192	.773	4105	FINAL HYDROSTATIC

F.I.T. No. 4 @ 7,819' RT

HOURS	8,000 PSI		6,200 PSI		REMARKS
	DEFL.	PSIG	DEFL.	PSIG	
	1.045	4168	1.335	4152	INITIAL HYDROSTATIC
2137					SET PACKER
2140	.476	1896			OPEN TOOL
2142	.475	1892			
2144	.472	1880	.606	1885	
2146	.471	1876	.607	1888	
2148	.850	3384	1.068	3305	
2150	.852	3392	1.096	3412	SEAL VALVE - OPEN SEGREGATOR
2152	.855	3404	1.095	3406	
2154	.855	3404	1.095	3406	SEAL SEGREGATOR
2155					UNSEAT PACKER
	1.043	4160	1.335	4152	FINAL HYDROSTATIC.



OPERATOR: GEORGE DONEMAN

WEEKLY SUMMARY - MACKEREL-3

Week Ending April 27, 1972

Spud: April 1, 1972; Total Depth: 8637 feet; Programmed Depth: 8600 feet;
Elevation: +32' KB; Water Depth: 332 feet; Rig: Glomar Conception.

Present Operation: Carrying out sea floor coring at the Mackerel Platform location.

Progress: Ran eleven FIT's, plugged and abandoned. Moved to Mackerel Platform location.

<u>Geology:</u>	<u>Formation</u>	<u>Subsea Depth</u>	
		<u>Predicted</u>	<u>Actual</u>
	Miocene Gippsland Formation	- 324'	- 332'
	Mid Miocene Marker	-7133'	-7236'*
	Oligocene	-7468'	-7418'*
	Paleocene Latrobe Group	-7680'	-7771'*
	T.D.	-8600'	8637'**

* Log Depth

** Drill Depth

Location: Final coordinates for Mackerel-3 (as calculated by ONI)

Latitude 38° 28' 25.808" S.

Longitude 148° 21' 44.172" E.

X 618833 E.

Y 5740716 N.

AMG Zone 55.

Mackerel-1 0.7 miles to the south-west.

Mackerel-2 1.6 miles to the south-west.

Testing:

FIT depths are from IES log.

FIT No. 1 7900'

Recovered: 11.9 cf GAS

(Main 6700 cc OIL

Chamber) 12400 cc WATER (filtrate)

Properties: Oil, GOR 283, 46° API, Pour Point 65°F
Water, Cl 4700 ppm, NO₃ 70 ppm.

Pressures: Schlumberger Sampling pressure 2850 psi
Hydrostatic pressure 4100 psi
Final shut-in 3500 psi

FIT No.2 7911'

Recovered: Trace of GAS
(Main chamber) Scum of OIL
21250 cc WATER (mostly filtrate (?))

Properties: Water, Cl 4700 ppm, NO₃ 22.5ppm.

Pressures: Schlumberger Sampling Pressure 2850 psi
Hydrostatic Pressure 3470 psi
Final Shut-in 4260 psi

FIT No. 3 7855'

Recovered: 19.0 cf GAS
(Main Cham- 16750 cc OIL
ber). 2000 cc MUD
Trace SAND

Properties: Oil, GOR 180, 48° API, Pour point 64°F.

Pressures: Schlumberger Sampling Pressure 3400 psi
Hydrostatic Pressure 4080 psi
Final shut-in 3430 psi.

FIT No. 4 7815'

Recovered: 17.7 cf GAS
(Main 15400 cc OIL
Chamber) 4000 cc WATER (Filtrate)

Properties: Oil, GOR 183. 48° API, Pour Point 63°F.
Water, Cl 5000 ppm, NO₃ 6 ppm.

Pressures: Schlumberger Sampling Pressure 2100 psi
Hydrostatic Pressure 4290 psi
Final shut-in 3460 psi

FIT No. 5 7866'

Recovered: 47 cf GAS
48,000 cc OIL
40,000 cc WATER

FIT No. 6 7864'

Recovered: 63.6 cf GAS
57000 cc OIL
20000 cc WATER

FIT No. 7 7863'

Recovered: 64 cf GAS
48000 cc OIL
25000 cc WATER

FIT No. 8 7862'

Recovered: 73 cf GAS
64000 cc OIL
12000 cc WATER

FIT No. 9 7861'

Recovered: 50 cf GAS
34000 cc OIL
6750 cc WATER

FIT No. 10 7864'
Recovered: 74 cf GAS
71,000 cc OIL
8000 cc WATER

FIT No. 11 7862'
Recovered: 71 cf GAS
67000 cc OIL
8000 cc WATER

Tests 1 through 4 were carried out using the regular FIT tool with a segregator and two Amerada pressure bombs.

Tests 5 through 11 were carried out using the regular FIT tool but extended to 24 gallons main chamber capacity. The oil recovered will be sent to refineries for analysis.

Plugs:

Plug # 1. 7920' - 7620' tagged hard cement at 7770'
2. 2970' - 2670'
3. 650' - 465' tagged at 500'.

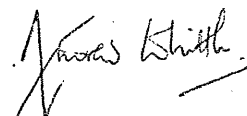
Remarks:

The rig is currently being used to carry out a sea floor coring project at the Mackerel Platform Location.

Latitude 38° 28' 48" S
Longitude 148° 20' 35" E.

X 617130 E. (AMG Zone 55 Coordinates)
Y 5740040 N.

Cores will be cut to 500 feet penetration prior to the rig moving to the Bass Basin to drill Pelican-3.



A.P. WHITTLE

PE904983

This is an enclosure indicator page.
The enclosure PE904983 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE904983 has the following characteristics:

- ITEM_BARCODE = PE904983
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 F.I.T. Data
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = FIT
- DESCRIPTION = Mackerel 3 Formation Interval Test
(F.I.T.) Data. Test Number 1-11. From
section 6.0 of Well Summary.
- REMARKS =
- DATE_CREATED =
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Schlumberger
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

6.1 CALIBRATION DATA

ESSO AUSTRALIA LIMITED

MACKEREL

MACKEREL No. 3

CALIBRATION DATA

PRE-TEST CALIBRATION - 8,000 PSI SERIAL No. 3969-N

APRIL 4, 1972
OILHEAD 1.50 PSI
200°F

<u>KGM/CM</u>	<u>PSIG</u>	<u>DWG</u>	<u>DEFL.</u>	<u>DWG/DEFL.</u>
14	199.13	200.63	1.23	163.11
28	398.25	399.75	2.49	160.54
42	597.38	598.88	3.78	158.43
56	796.50	798.00	5.05	158.02
70	995.63	997.13	6.33	157.52
140	1991.26	1992.76	12.74	156.42
210	2986.89	2988.39	19.12	156.29
280	3982.52	3984.02	25.48	156.36
350	4978.16	4979.66	31.81	156.54
385	5475.97	5477.47	34.96	156.68

POST-TEST CALIBRATION - 8,000 PSI SERIAL No. 3969-N

APRIL 22, 1972
OILHEAD 1.50 PSI
200°F

<u>KGM/CM</u>	<u>PSIG</u>	<u>DWG</u>	<u>DEFL.</u>	<u>DWG/DEFL.</u>
14		200.63	1.22	164.45
28		399.75	2.48	161.18
42		598.88	3.79	158.02
56		798.00	5.05	158.02
70		997.13	6.34	157.28
140		1992.76	12.74	156.42
210		2988.39	19.10	156.46
280		3984.02	25.45	156.54
350		4979.66	31.82	156.49
385		5477.47		

ESSO
BASIS DATA

F = 157.03
3988 PSI/INCH

ESSO AUSTRALIA LIMITED

MACKEREL

MACKEREL No. 3

CALIBRATION DATA

PRE-TEST CALIBRATION: 6,200 PSI SERIAL No. 15629-N

APRIL 7, 1972
OILHEAD 3 PSI
200°F

<u>KGM/CM</u>	<u>DWG.</u>	<u>DEFL.</u>	<u>DWG/DEFL.</u>
14	200.63	1.67	120.14
28	399.75	3.29	120.50
42	598.88	4.92	121.72
56	798.00	6.54	122.02
70	997.13	8.16	122.20
140	1992.76	16.27	122.48
210	2988.39	24.36	122.68
280	3984.02	32.44	122.81
350	4979.66	40.51	122.92
385	5477.47	44.53	123.00

F = 122.14

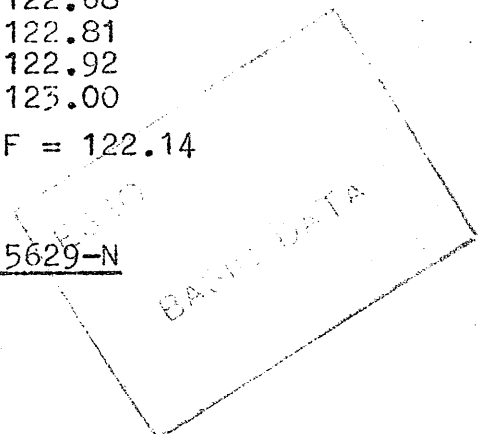
POST-TEST CALIBRATION: 6,200 PSI SERIAL No. 15629-N

APRIL 22, 1972
OILHEAD 3 PSI
200°F

<u>KGM/CM</u>	<u>DWG.</u>	<u>DEFL.</u>	<u>DWG/DEFL.</u>
14	202.13	1.73	116.84
28	401.25	3.34	120.13
42	600.38	4.96	121.04
56	799.50	6.58	121.50
70	998.63	8.19	121.93
140	1994.26	16.26	122.65
210	2989.89	24.32	122.94
280	3985.52	32.41	122.97
350	4981.16	40.50	122.99
385	5478.97	44.54	123.01

F = 122.37
3108 PSI/IN.

NOTE: PSIG USED ON CALIBRATIONS CONSISTENT WITH SAME ON TESTS
RUN ON 8,000 PSI AND 10,250 PSI GAUGES.



ESSO AUSTRALIA LIMITED

MACKEREL

MACKEREL No. 3

CALIBRATION DATA

PRE-TEST CALIBRATION - 10,250 PSI SERIAL No. 8757

APRIL 4, 1972
 OILHEAD 3 PSI
 200°F

<u>KGM/CM</u>	<u>PSIG</u>	<u>DWG</u>	<u>DEFL.</u>	<u>DWG/DEFL.</u>
14	199.13	202.13	1.00	202.13
28	398.25	401.25	1.94	206.83
42	597.38	600.38	2.87	209.19
56	796.50	799.50	3.81	209.84
70	995.63	998.63	4.75	210.28
140	1991.26	1994.26	9.48	210.36
210	2986.89	2989.89	14.24	209.96
280	3982.52	3985.52	19.04	209.32
350	4978.16	4981.16	23.89	208.50
385	5475.97	5478.97	26.33	208.09

F = 209.43
 5319 PSI/INCH

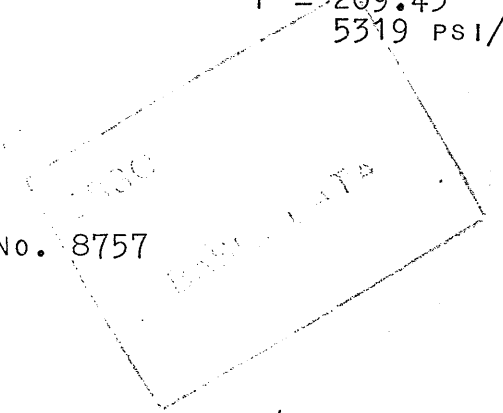
~~NOTE: Post CALIBRATION DATA NOT AVAILABLE~~

POST-TEST CALIBRATION - 10,250 PSI SERIAL No. 8757

APRIL 22, 1972
 OILHEAD 3 PSI
 200°F

<u>KGM/CM</u>	<u>PSIG</u>	<u>DWG</u>	<u>DEFL.</u>	<u>DWG/DEFL.</u>
14	199.13	202.13	.98	206.26
28	398.25	401.25	1.91	210.08
42	597.38	600.38	2.85	210.66
56	796.50	799.50	3.79	210.95
70	995.63	998.63	4.74	210.68
140	1991.26	1994.26	9.50	209.52
210	2986.89	2989.89	14.26	209.67
280	3982.52	3985.52	19.05	209.29
350	4978.16	4981.16	23.89	208.50
385	5475.97	5478.97	26.34	208.00

F = 209.66
 5325 PSI/INCH



7.0 ENCLOSURES

PE604081

This is an enclosure indicator page.
The enclosure PE604081 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604081 has the following characteristics:

- ITEM_BARCODE = PE604081
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 1
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604082

This is an enclosure indicator page.
The enclosure PE604082 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604082 has the following characteristics:

- ITEM_BARCODE = PE604082
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 2
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604083

This is an enclosure indicator page.
The enclosure PE604083 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604083 has the following characteristics:

- ITEM_BARCODE = PE604083
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 3
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604084

This is an enclosure indicator page.
The enclosure PE604084 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604084 has the following characteristics:

ITEM_BARCODE = PE604084
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 4
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604085

This is an enclosure indicator page.
The enclosure PE604085 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604085 has the following characteristics:

- ITEM_BARCODE = PE604085
- CONTAINER_BARCODE = PE904982
 - NAME = Mackerel 3 Mud Log (2"=100')
 - BASIN = GIPPSLAND
 - PERMIT = VIC/L5
 - TYPE = WELL
 - SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 5
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604086

This is an enclosure indicator page.
The enclosure PE604086 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604086 has the following characteristics:

ITEM_BARCODE = PE604086
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 6
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604087

This is an enclosure indicator page.
The enclosure PE604087 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604087 has the following characteristics:

ITEM_BARCODE = PE604087
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 7
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604088

This is an enclosure indicator page.
The enclosure PE604088 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604088 has the following characteristics:

ITEM_BARCODE = PE604088
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 8
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604089

This is an enclosure indicator page.
The enclosure PE604089 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604089 has the following characteristics:

ITEM_BARCODE = PE604089
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 9
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604090

This is an enclosure indicator page.
The enclosure PE604090 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604090 has the following characteristics:

ITEM_BARCODE = PE604090
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 10
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604091

This is an enclosure indicator page.
The enclosure PE604091 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604091 has the following characteristics:

ITEM_BARCODE = PE604091
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 11
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604092

This is an enclosure indicator page.
The enclosure PE604092 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604092 has the following characteristics:

- ITEM_BARCODE = PE604092
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 12
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604093

This is an enclosure indicator page.
The enclosure PE604093 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604093 has the following characteristics:

ITEM_BARCODE = PE604093
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 13
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604094

This is an enclosure indicator page.
The enclosure PE604094 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604094 has the following characteristics:

ITEM_BARCODE = PE604094
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 14
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604095

This is an enclosure indicator page.
The enclosure PE604095 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604095 has the following characteristics:

ITEM_BARCODE = PE604095
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 15
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604096

This is an enclosure indicator page.
The enclosure PE604096 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604096 has the following characteristics:

ITEM_BARCODE = PE604096
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 16
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604097

This is an enclosure indicator page.
The enclosure PE604097 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604097 has the following characteristics:

ITEM_BARCODE = PE604097
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 17
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604098

This is an enclosure indicator page.
The enclosure PE604098 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604098 has the following characteristics:

- ITEM_BARCODE = PE604098
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 18
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604099

This is an enclosure indicator page.
The enclosure PE604099 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604099 has the following characteristics:

- ITEM_BARCODE = PE604099
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 19
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604100

This is an enclosure indicator page.
The enclosure PE604100 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604100 has the following characteristics:

ITEM_BARCODE = PE604100
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 20
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604101

This is an enclosure indicator page.
The enclosure PE604101 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604101 has the following characteristics:

ITEM_BARCODE = PE604101
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 21
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604102

This is an enclosure indicator page.
The enclosure PE604102 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604102 has the following characteristics:

ITEM_BARCODE = PE604102
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 22
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604103

This is an enclosure indicator page.
The enclosure PE604103 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604103 has the following characteristics:

ITEM_BARCODE = PE604103
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Mud Log (2"=100')
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 23
of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604104

This is an enclosure indicator page.
The enclosure PE604104 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604104 has the following characteristics:

- ITEM_BARCODE = PE604104
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Mud Log (2"=100')
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Mackerel 3 Mud Log (2"=100').
Enclosure 7.1 of Well Summary. Page 24
of 25.
- REMARKS =
- DATE_CREATED = 17/04/72
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604105

This is an enclosure indicator page.
The enclosure PE604105 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604105 has the following characteristics:

ITEM_BARCODE = PE604105
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=100')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=100').
 Enclosure 7.1 of Well Summary. Page 25
 of 25.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604106

This is an enclosure indicator page.
The enclosure PE604106 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604106 has the following characteristics:

ITEM_BARCODE = PE604106
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=1000')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=1000').
 Enclosure 7.2 of Well Summary. Page 1
 of 3.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604107

This is an enclosure indicator page.
The enclosure PE604107 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604107 has the following characteristics:

ITEM_BARCODE = PE604107
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=1000')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=1000').
 Enclosure 7.2 of Well Summary. Page 2
 of 3.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604108

This is an enclosure indicator page.
The enclosure PE604108 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604108 has the following characteristics:

ITEM_BARCODE = PE604108
CONTAINER_BARCODE = PE904982
 NAME = Mackerel 3 Mud Log (2"=1000')
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = MUD_LOG
DESCRIPTION = Mackerel 3 Mud Log (2"=1000').
 Enclosure 7.2 of Well Summary. Page 3
 of 3.
REMARKS =
DATE_CREATED = 17/04/72
DATE_RECEIVED =
 W_NO = W643
 WELL_NAME = Mackerel-3
 CONTRACTOR = Baroid
 CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604109

This is an enclosure indicator page.
The enclosure PE604109 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604109 has the following characteristics:

- ITEM_BARCODE = PE604109
- CONTAINER_BARCODE = PE904982
 - NAME = Mackerel 3 Drilling Data Record
 - BASIN = GIPPSLAND
 - PERMIT = VIC/L5
 - TYPE = WELL
 - SUBTYPE = WELL_LOG
- DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 1 of 17.
- REMARKS =
- DATE_CREATED =
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid Well Logging
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604110

This is an enclosure indicator page.
The enclosure PE604110 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604110 has the following characteristics:

ITEM_BARCODE = PE604110
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 2 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604111

This is an enclosure indicator page.
The enclosure PE604111 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604111 has the following characteristics:

ITEM_BARCODE = PE604111
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 3 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604112

This is an enclosure indicator page.
The enclosure PE604112 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604112 has the following characteristics:

ITEM_BARCODE = PE604112
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 4 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604113

This is an enclosure indicator page.
The enclosure PE604113 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604113 has the following characteristics:

ITEM_BARCODE = PE604113
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 5 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604114

This is an enclosure indicator page.
The enclosure PE604114 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604114 has the following characteristics:

ITEM_BARCODE = PE604114
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 6 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604115

This is an enclosure indicator page.
The enclosure PE604115 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604115 has the following characteristics:

ITEM_BARCODE = PE604115
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 7 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604116

This is an enclosure indicator page.
The enclosure PE604116 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604116 has the following characteristics:

ITEM_BARCODE = PE604116
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 8 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604117

This is an enclosure indicator page.
The enclosure PE604117 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604117 has the following characteristics:

ITEM_BARCODE = PE604117
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 9 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604118

This is an enclosure indicator page.
The enclosure PE604118 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604118 has the following characteristics:

ITEM_BARCODE = PE604118
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 10 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604119

This is an enclosure indicator page.
The enclosure PE604119 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604119 has the following characteristics:

ITEM_BARCODE = PE604119
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 11 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604120

This is an enclosure indicator page.
The enclosure PE604120 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604120 has the following characteristics:

ITEM_BARCODE = PE604120
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 12 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604121

This is an enclosure indicator page.
The enclosure PE604121 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604121 has the following characteristics:

ITEM_BARCODE = PE604121
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 13 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604122

This is an enclosure indicator page.
The enclosure PE604122 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604122 has the following characteristics:

ITEM_BARCODE = PE604122
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 14 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604123

This is an enclosure indicator page.
The enclosure PE604123 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604123 has the following characteristics:

- ITEM_BARCODE = PE604123
- CONTAINER_BARCODE = PE904982
- NAME = Mackerel 3 Drilling Data Record
- BASIN = GIPPSLAND
- PERMIT = VIC/L5
- TYPE = WELL
- SUBTYPE = WELL_LOG
- DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 15 of 17.
- REMARKS =
- DATE_CREATED =
- DATE_RECEIVED =
- W_NO = W643
- WELL_NAME = Mackerel-3
- CONTRACTOR = Baroid Well Logging
- CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604124

This is an enclosure indicator page.
The enclosure PE604124 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604124 has the following characteristics:

ITEM_BARCODE = PE604124
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 16 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604125

This is an enclosure indicator page.
The enclosure PE604125 is enclosed within the
container PE904982 at this location in this
document.

The enclosure PE604125 has the following characteristics:

ITEM_BARCODE = PE604125
CONTAINER_BARCODE = PE904982
NAME = Mackerel 3 Drilling Data Record
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Mackerel 3 Drilling Data Record with
"d" Exponent and Kf = Apparent
formation drillability. Enclosure 7.3
of Well Summary. Page 17 of 17.
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W643
WELL_NAME = Mackerel-3
CONTRACTOR = Baroid Well Logging
CLIENT_OP_CO = Esso Standard Oil (Australia) LTD.

(Inserted by DNRE - Vic Govt Mines Dept)