670

SUBSIDY REPORT

MARLIN A-24

WCR (SUBSIDY REPORT)
MARLIN A-24
(W670)

MARLIN - A24

COMPLETED 28-6-73 — 748 — 73 — 10:12
EXPLORATION STARTED 6450' T.D. 11,005'
ESSO VIC. L/3 WILDCAT T.V.D 8,947'

✓ IES	Run 1 + 2	2"	4800 - 11,005	W.D. 200'
	" " "	5"	" "	
	" 2	2"+5"	6460 - 11005.	
✓ FDC/CNL/GG	" 1 + 2	2"	4800 - 11002 Cal 4400	
" " "	" " "	5"	" " " "	
" " "	" 2	2"+5"	6460 - 11002	
✓ FIT	" 1	Tests 1-5	TAKE LOGS FROM SUBSIDY FOLDER. INTERPRETIVE DATA ON SUBSIDIZED WELLS IS NOT RELEASED WITHOUT APPROVAL OF PERMITTEE.	
"	" 2	" 6-12		
"	" 3	" 13-22		
✓ SNP/GR/CAL	" 1+2	2"	4800 - 11002	
" " "	" "	5"	" "	
" " "	2	2"+5"	6460 - 11002.	
✓ GR/CCL	5100 - 10816	Run 1.	5".	+ 2
✓ EXPLORATION'S MUDLOG		6460' - 10,988'		+ 1
✓ APPENDIX TO MUDLOG		6700' - 10,900'		
✓ LOG CONVERTED TO VERTICAL DEPTH		5400 - 11000		
" " " "		" 5450 - 11000.		
✓ COMPLETE SUITE LOGS LOG. 080688				
✓ FIT TEST RESULTS 1-22				
✓ ANGEW - GO - WESTERN. SUBSURFACE PRESSURES AMERADO.				
✓ CORE ANALYSIS RESULTS. CORES 1-3 (CORE LAB.)				
✓ " " " " 1-4. (B.M.R.)				
✓ " " " " 1-4. (EXPLORATION LO				
✓ " DISCRIPTIONS. (EXPLORATION LOGGING.)				
✓ CUTTINGS DESCRIPTIONS. 5140 - 10988.				
STEAM STILL CHROMATOGRAPHY RESULTS.				
MD-TVD CONVERSIONS.				
X WELL COMPOSITE LOG.				
X WELL LOG ANALYSIS REPORT.				
X WELL HISTORY CHART.				
X STRATIGRAPHIC SECT. CHART. HYDROCARBON DISTRIBUTION.				+
X " DESCRIPTIONS. 6460' - 10,988'				
X PALYNOLOGICAL REPORT by L E. STOVER PLUS REVISION.				
X NATA RESULTS OF A.P.I. GRAVITY OF FIT'S 13,16821				
X " " " S.G. A.S.T.M. D1070-67. OF FIT. 7417				
X 21 SEISMIC GRAPHS 1111-514				
X STRUCTURE MAP A-6. OIL SAND HORIZON.				
X WEEKLY REPORTS.				
X SUBSIDY REPORT. +1C				

* CORES & CUTTING RECEIVED INTO STORE

IES TVD Log 5"
FDC/ER TVD log 5".

6458' begins subsidized portion

* REPORT & PLAN OF SUB-SURFACE SURVEY

SUBSIDY REPORT

MARLIN A-24

VICTORIA, AUSTRALIA

By

J.R. Black

C.N. Curnow

W.W. Fraser

Esso Exploration
& Production Inc.

October, 1973

CONTENTS

1. SUMMARY

(1) Drilling

Marlin A-24 was drilled to a measured depth T.D. of 11,003 ft. (8,946' TVD) at an average angle of 40° 30' from the Marlin platform using Shelf Drilling's rig, M-2. The upper part of the hole was drilled as a Marlin gas development well to a depth of 6458' measured depth. Protective 9-5/8" casing was set across the Marlin upper pay zone at 6458' and cemented with 800 sacks of cement. The subsidized portion of the hole begins at 6458'. The well commenced drilling on 19 May 1973 and was plugged back as a Marlin gas producer from the upper zone on 28 June 1973. The exploratory portion of the hole required 30.94 rig days.

Casing was set at 2140.3' (13-3/8" in 17½" hole); at 6457.56' (9-5/8" in 12¼" hole) and at 10,985.76' (5½ liner in 8½" hole, hanger at 6141').

The exploratory part of the well was plugged at seven intervals between 10,984' and 5950'. Tubing was run, christmas tree installed and well was completed as a Marlin gas development well producing from the upper zone.

(2) Geological

The normal sequence of Miocene to Recent marls, limestones, mudstones and calcarenites was encountered above the Marlin Latrobe producing horizons. The Eocene and Paleocene sediments were found to consist of interbedded sandstones, shales and coals as anticipated.

The well encountered hydrocarbons in the upper Marlin pay zone and at various intervals as shown on the completion log in the exploratory part of the hole. For the most part the hydrocarbon bearing sands have good porosity and permeability.

II. INTRODUCTION

The exploratory part of the Marlin A-24 well was programmed to test the Paleocene section in fault block "D" immediately to the south of the platform. The planned depth was sufficient to test the section stratigraphically equivalent to the Marlin A-6 oil sand found in the Marlin 1, 2 and A-6 wells. The target at TVD was a 500' circle centered 6200' from the platform on bearing 211°.

ESSO STANDARD OIL (AUSTRALIA) LTD.

COMPLETION REPORT

I WELL DATA RECORD

Date 28.9.73

LOCATION

WELL NAME	STATE	PERMIT or LICENCE	GEOLOGICAL BASIN	FIELD
MARLIN A-24	VIC. (offshore)	VIC. L/3	GIPPSLAND	MARLIN

CO-ORDINATES	MAP PROJECTION	GEOGRAPHICAL DESCRIPTION
Latitude: 38° 13' 54.79"S X 606,731 Longitude: 148° 13' 10.12"E Y 5,767,738 Bottom Hole 5824S35W AMG ZONE 55		65 miles ESE of Sale, Victoria

ELEVATIONS & DEPTHS

ELEVATIONS	WATER DEPTH	TOTAL DEPTH	Avg.Angle
MSL KB 90' RT 88' 5" Braden Head 49' Top Deck Platform 65'	200	M.D. 10988' T.V.D. 8946'	40° 30'
	PLUG BACK DEPTH: 5976	REASONS FOR P.B.: CEMENT PLUG (P.B. EXPLORATION HOLE)	

DATES

MOVE IN	RIG UP	SPUDDED
19.5.73	19.5.73	19.5.73
RIG DOWN COMPLETE: 28.6.73	RIG RELEASED: 28.6.73	PROD.UNIT - Start Rigging Up
PROD.UNIT - Rig Down Complete	I.P. ESTABLISHED	

MISCELLANEOUS

OPERATOR	PERMITTEE or LICENCEE	ESSO INTEREST	OTHER INTEREST
ESSO AUSTRALIA LTD	HEMATITE PETROLEUM	50%	2½% L.G. WEEKS

CONTRACTOR	RIG NAME	EQUIPMENT TYPE
SHELF DRILLING PTY LTD	M-2	110 DE

TOTAL RIG DAYS	DRILLING AFE NO.	COMPLETION NO.	TYPE COMPLETION
40.38	013-004 & 233-103	ORIGINAL	SINGLE TUBING

LAHEE WELL CLASSIFICATION		
	Before Drilling	DEVELOPMENT/DEEP POOL WILDCAT
	After Drilling	GAS PRODUCER

G.A. SHORT
Geologist

WELL: MARLIN A-24

August 10, 1973

IV CASING-LINER-TUBING RECORD

Type	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
CASING HEAD ELEVATION						41.00	41.00
	13-3/8"	54.5#	J-55	Butt	57 + Float Shoe & Float Collar	2099.30	2140.30
CASING HEAD ELEVATION						41.00	41.00
	9-5/8"	47#	N-80	Butt	166 + Float Shoe & Float Collar	6416.56	6457.56
KB TO LINER HANGER						6141.00	6141.00
	5½"	17#	N-80	LT&C	Liner Hanger + 119 joints	4800.10	10941.10
	5½"	17#	N-80	LT&C	Landing Collar + 1 Joint + Shoe	44.66	10985.76
KB TO HBA HANGER						39.00	39.00
	4½"	12.75#	C-75	EUE	13 + Flow Cplgs & Weldment	413.88	452.88
	7"	23#	J-55	LT&C	118 + Crossovers	4574.73	5027.61
	4½"	12.75#	C-75	EUE	1 + Sliding Side Door Assembly	35.62	5063.23
	4½"	12.75#	C-75	EUE	1 + Bridging Plug & Packer	37.30	5100.53
	4½"	12.75#	C-75	EUE	1 + Crossover & 'N' Nipple	32.85	5133.38

V CEMENT RECORD

String	13-3/8"	9-5/8"	5½"
Type of Cement	1380 sx Aust N + 12% gel tailed w/480 sx neat + 2% $CaCl_2$	800 sx Aust N + 6% gel	1000 sx 12% gel cement 1.5% Halad-9, 1.5% CFR-2
Number of FT^3	3589	1352	2190
Average Weight of Slurry	12.6/15.6 ppg	13.7 ppg	12.6 ppg
Cement Top	Cellar Deck	3950'	6141'
Casing Tested with	3000 psi	2000 psi	1500 psi
Number of Centralizers	48	110	113
Number of Scratchers	-	-	-
Stage Collar, etc.	-	-	-
Remarks	144 bbls cement returns. Reciprocated casing while displacing first 100 bbls. Grouted annulus w/ 100 sx neat + 2% $CaCl_2$.	Reciprocated casing while cementing. Full returns throughout.	Liner wiper plug failed to bump. Reversed out 126 bbls cement slurry. Required squeeze job at top of liner.

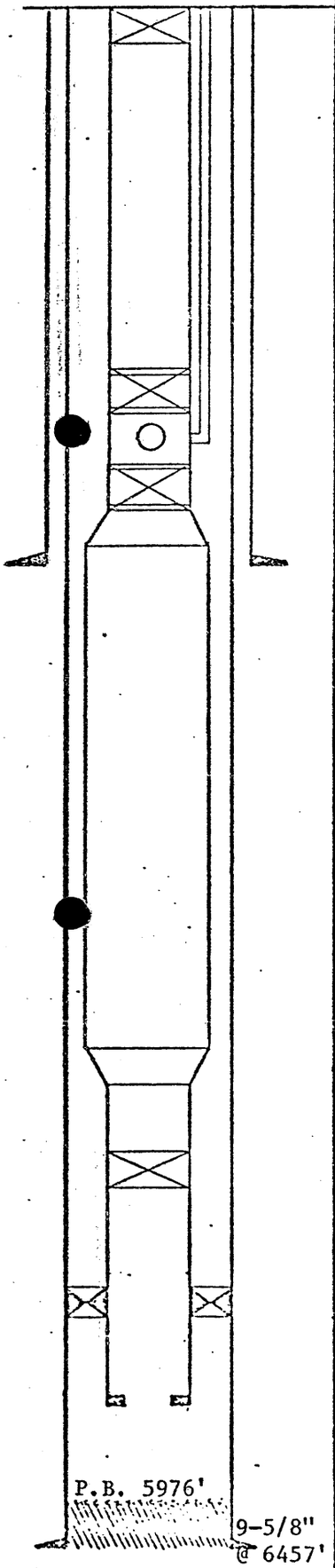
R W. Oliver

Engineer

ESSO ~~STANDARD OIL~~ (AUSTRALIA) LTD

SUBSURFACE COMPLETION EQUIPMENT

WELL NAME: MARLIN A-24 DATE ~~COMPLETED~~ August 10,1973



Equipment Description	Length	Depth
KB to HBA hanger	39.00	39.00
13 joints tubing 4½" 12.75# C-75 EUE with 1/8" control line strapped externally (OD 4½" coupling 5.563", OD 1/8" coupling 0.625")	404.66	443.66
Flow coupling Otis 4140 EUE	3.60	447.26
Weldment 4½" Otis landing nipple for XOE ball valve	2.02	449.28
Flow coupling Otis 4140	3.60	452.88
Crossover Esso 4½" EUE x 7" LT&C	3.92	456.80
118 joints tubing 7" 23# J-55 LT&C	4566.79	5023.59
Crossover Esso 7" LT&C x 4½" EUE	4.02	5027.61
1 joint tubing 4½" 12.75# C-75 EUE	30.85	5058.46
Coupling 4½" EUE	0.52	5058.98
Otis sliding sleeve assembly 4½"	4.25	5063.23
1 joint tubing 4½" 12.75# C-75 EUE	31.30	5094.53
J-latch Otis	0.50	5095.03
Otis Permatrieve packer 9-5/8" x 3.91" ID	5.50	5100.53
1 joint tubing 4½" 12.75# C-75 EUE	30.52	5131.05
Crossover 4½" EUE x 4½" Butt.	0.90	5131.95
Otis 'N' landing nipple 4.5" x 3.812"	1.43	5133.38

WELL MARLIN A-24

VII SAMPLES, CONVENTIONAL CORES, SW CORES
ABOVE 6460 SEE SUBSIDY REPORT FOR BELOW

INTERVAL	TYPE	RECOVERED	INTERVAL	TYPE	RECOVERED
5100-6460 (10' intervals)	Cuttings				

VIII WIRELINE LOGS AND SURVEYS Incl. FIT)
(ABOVE 6460 - see subsidy report for below 6460)

Type & Scale	From	To	Type & Scale	From	To
IES 2" & 5"	6463	4800			
FDC/GR	6463	4800			
Cal	to 4100				
SNP/GR	6463	4800			

G.A. SHORT
Geologist

WELL MARLIN A-24

IX	FORMATION TOPS/Zones					
NAME	Tops		gross Interval (ft)	Net Pay (ft).		REMARKS
	M.D.	Sub-sea		Gas	Oil	
LATROBE	5191	-4481				
N-1.2	5191	-4481	61	41		
N-1.3	5330	-4592	120	120		
N-1.4	5537	-4756	41	41		
N-1.5.2	5668	-4862	54	54		
M-1	6037	-5149	51			

X GEOLOGIC ANALYSIS (Pre Drilling prognosis Vs actual results)

PRE-DRILL: Marlin A-24 was designed to fulfill a two fold production - wildcat well purpose. Firstly, it was designed to provide primary/secondary completions within the N-1.4 and N-1.2 sandstone units respectively.
Secondly, the well was to evaluate the undrilled Paleocene section within the fault block South of the "A" platform.

POST-DRILL: The Marlin A-24 well confirmed the pre-drill geological prognosis and encountered the N-1 reservoir units at the predicted depths. Owing to the dolomitic nature, and subsequent poor reservoir quality of the N-1.4 sandstone unit, the primary completion interval will be within the 54' TVT N-1.5.2 reservoir unit.
The N-1.2 unit contains 41' TVT of good quality net gas sandstone, in which the well will be recompleted on watering out of the N-1.5.2 unit.
The geological analysis of the well findings below 6460' MD are discussed in the A-24 wildcat subsidy report.

A.K. SVALBE.
Geologist

III. WELL HISTORY

(1) General Data

(i) Well Name and Number:

MARLIN A-24

(ii) Operator and Address:

Esso Exploration and Production Australia Inc.,
C/- Price Waterhouse Nominees (Victoria) Pty Ltd,
The National Mutual Centre,
447 Collins Street,
MELBOURNE. VICTORIA. 3000.

(iii) Title Holder and Address

Hematite Petroleum Pty Ltd,
459 Little Collins Street, (= Esso
MELBOURNE. VICTORIA. 3000.

(iv) Petroleum Title

Petroleum Production Licence Vic. L/3

(v) District

AMG Zone 55

(vi) Location

Conductor #9
Latitude 38° 13' 54.79"S
Longitude 148° 13' 10.12"E
T.D. is located at S 35° 20' W, 5824' from spud location

(vii) Elevation

(a) -200' Seafloor
(b) +90' KB

(viii) Total Depth

(a) 11,003' Measured Depth

(b) 8,946' True Vertical Depth

(ix) Spud Date

19 May, 1973
30 May, 1973 started drilling exploratory part of hole
($8\frac{1}{2}$" at 6460 Measured Depth KB)

(x) Date T.D. Reached

16 June, 1973

WELL HISTORY (Cont'd)

(xi) Date of Completion

27 June, 1973

(xii) Rig Released

28 June, 1973

(xiii) Drilling Time

Development Portion = 9.52 days. Exploration Portion = 30.94 days. Total = 40.46 days.

(xiv) Status Shallower Pool gas producer (Plugged back to 5950 MD) Abandoned Deeper Pool Gas/Oil Discovery

(xv) Total Cost Preliminary estimate including development portion of well $A652,131.

(2) Drilling Data

(i) Name and Address of Drilling Contractor

Shelf Drilling Pty Ltd,
P.O. Box 309,
Sale, Victoria, 3850.

(ii) Drilling Plant

Make:	National 110 UE
Type:	Unitized Electric
Rated Capacity with Drill Pipe used:	15,000' with 5" drill pipe
Motors:	
Make:	Caterpillar
Type:	D399 Marine Diesel
B.H.P.:	3 x 1200

(iii) Derrick

Make:	Lee C. Moore 142 feet
Type:	Jack-knife derrick
Rated Capacity (lb)	1,000,000

(iv) Pumps

Make:	National x 2
Type:	N-1300
Size:	1300 HP each
Pump Motors:	
Make:	General Electric
Type:	DC Electric
B.H.P.:	750 - 2 per pump

(v) Blowout Preventer Equipment

Make:	Cameron, Hydril
Type:	2 Cameron ram-type preventers 1 Hydril bag-type preventer
Size:	13-5/8" for 5" drill pipe
API Series:	1500-5000 psi working pressure

WELL HISTORY (Cont'd)

(vi) Hole Sizes and Depths

Exploration Hole: 8½" from 6460' KB to 11,003' KB

(vii) Casing and Liner Cementing Details

Size:	5½"
Weight:	17 lb/ft
Grade:	N-80
Range:	3
Depth Set:	10,986' KB Top 6141' KB
Position of Float Collar:	Top of bottom joint
Position of Float Shoe:	Bottom of string
Position of Plugs:	
No. of Centralizers:	113
Position of Centralizers:	2 on first joint 1 on joints #2 to #103 1 on joints #112 to #120
No. of Scratchers	-
Position of Scratchers	-
Cement Used	1000 sx
Top of Cement	6141'
Method Used (plug, multi-stage, etc.)	Plug

(viii) Drilling Fluid

Type:	Freshwater lignosulphonate mud
Average Weight:	10.1 ppg
Brief details of treatment, average weekly analysis:	Mud pumped over shale shaker and through desander and desilter. Thinning accompanied by addition of fresh water, Q-Broxin & CC-16.

WT	FV	WL	FILT	pH	SAND
10.1	45	4.2	2/32	10.2	Trace

List of types and quantity of mud material and chemical consumed

Barites	3955 sx
Gel	734 sx
Q-Broxin	332 sx
Caustic	5940 lbs
Soda Ash	20 sx
Al. Stearate	6 sx
Bicarbonate	6 sx
CMC	58 sx
CC-16	621 sx
Diesel	405 bbl

(ix) Water Supply

Barry Beach tap water transported by workboats

(x) Perforation & Shooting Record

F.I.T.	Depth
1	10,720'
2	10,640'
squeeze perf.	10,612-14'
3	10,605'
13.R.R.	10,600'
4	10,596'
5	10,578'
14	10,443'
6	10,420'
19	10,380'
8	10,360'
18	10,359'
7	10,220'

(Cont'd)

(x) Perforation & Shooting Record (Cont'd)

F.I.T.	Depth
9	10,072'
10	9,957'
11	9,825'
12	9,514'
13 & 15	9,220'
16	8,862'
17	8,758'

(xi) (a) Plugging Back Cementation Jobs

	1	2	3
Length of Plug:	188'	270'	300'
Type of Plug:	15.6 ppg	15.6 ppg	15.6 ppg
No. of Sacks Used:	40 sx	30 sx	35 sx
Method Used:	Displacement through drillpipe		
Satisfactorily Tested?	Yes	-	-
	10,984-796'	10,750-480'	10,470-170'

4	5	6	7
400'	400'	300'	200'
15.6 ppg	15.6 ppg	15.6 ppg	15.6 ppg
47 sx	47 sx	35 sx	70 sx
Displacement through drill pipe.....			
-	-	-	Yes
10,100-9700'	9550-9150'	8900-8600'	6150-5950'

(xi) (b) Squeeze Cementation Jobs

	1	2
Depth:	6140'	10,612-614'
Slurry Density:	15.6 ppg	15.6 ppg
No. of Sacks	150 sx	29 sx
Job Description:	RTTS Tool - squeeze top of liner.	RTTS Tool - squeeze thru perforations.

(xii) Fishing Operations

Nil

(xiii) Side-tracked Hole

Nil

(3) Location

(i) Site Investigations Carried Out

Not applicable

(ii) Anchoring Methods

Not applicable

(iii) Transportation

1. Helicopters from Longford.
2. Workboats from Barry Beach and Lakes Entrance

(4) Sampling

(i) Ditch Cuttings

From beneath the 9-5/8" intermediate casings at 6460', five sets of washed and dried samples at 10' intervals were collected to T.D. as well as one set of unwashed, bagged samples every 10' and one composite canned sample every 100'. All samples were logged and caught off a standard shale shaker by "Exploration Logging of Australia" personnel under the supervision of an Esso wellsite geologist.

A set of washed and dried samples was taken for Hematite, Victorian Mines Department and the Bureau of Mineral Resources - Subsidy Section. (The latter sample was taken in B.M.R. plastic envelopes - 85 grams.) Esso retained two sets, one for paleontological processing and the other for storage. For descriptions see Appendix 3.

(ii) Coring

Core No.	Interval Cored	Footage Cut	Recovery in Feet	Percentage
1	8739 - 8770	31'	31'	100%
2	8770 - 8801	31'	31'	100%
3	8801 - 8836	35'	35'	100%
4	10467 -10505	38'	38'	100%

For a full description of the cores see Appendix 4.

(iii) Sidewall Sampling

No sidewall samples were taken due to the high angle of deviation of Marlin A-24.

(5) Logging and Surveys

(i) Electric Logging

Log	Interval	Scale
IES	11005 - 6460	2" & 5"
FDC/Gamma	11002 - 6460	2" & 5"
SNP/GR/Caliper	11002 - 6460	2" & 5"
Gamma Ray /CCL	10816 - 5100	5"

Copies of all logs (including TVD of above MVD logs) are in Enclosures 4-8 & 10.

(ii) Penetration Rate and Gas Logging

Full records of penetration rates, chromatographic gas analyses and total gas measurements were made from 6460 to T.D. (See Enclosure 9).

(iii) Temperature Surveys

Bottom hole temperatures were recorded by Schlumberger for each logging run and F.I.T. Maximum temperatures recorded are on each log header. A maximum BHT of 244^{o}F was reached on the SNP/GR/CAL log 9 hours after breaking circulation.

(iv) Other Well Surveys

Nil

(v) Deviation Surveys

Deviation surveys were run and conversions of True Vertical Depth (TVD) from Measured Depth (MD) are listed in Appendix (8).

(6) Testing

(i) Formation Testing

Twenty-two wireline Formation Interval Tests were run by Schlumberger inside the 5½" liner in Marlin A-24 to test the numerous oil and gas bearing sands. Details of these tests are given in Appendix 6.

(ii) No production tests were run.

REPORT

AND

PLAN

OF

SUB-SURFACE

SURVEY

ESSO AUSTRALIA LIMITED

MARLIN.A.24.

JOB NO..... DATE.....

EASTMAN DIRECTIONAL DRILLING (AUST.) PTY. LTD.

SALE :: VICTORIA

RECORD OF SURVEY

MARLIN A-24

JOB NO. Conductor #9

DATE June 1973

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES				REMARKS
						NORTH	SOUTH	EAST	WEST	
1	50 -	30'	50 -	44	S 87 E		02	44		
2	100 -	12'	100 -	18	N 81 E	01		62		
3	150 -	0°	150 -	-	00	01		62		
4	200 -	12'	200 -	18	S 52 E		10	76		
5	250 -	0°	250 -	-	00		10	76		
6	300 -	0°	300 -	-	00		10	76		
7	350 -	12'	350 -	18	N 34 W	05		66		
8	400 -	15'	400 -	22	N 57 W	17		48		
9	450 -	48'	450 -	70	N 58 E	54		1 07		
10	500 -	1°20'	499 99	1 16	S 83 E	40		2 22		
11	573 -	1°	572 98	1 49	S 74 E	10		3 68		
12	603 -	1°	602 97	53	N 05 E	40		4 11		
13	634 -	2°	633 96	81	N 30 W	1 20		3 93		
14	665 -	1°45'	664 94	1 01	32	2 07		3 41		
15	696 -	1°	695 93	74	20	2 73		3 09		
16	727 -	1°	726 92	54	N 74 W	3 06		2 74		
17	758 -	1°30'	757 91	68	S 89 W	3 15		2 07		
18	790 -	1°15'	789 90	77	68	3 00		1 33		
19	821 -	1°	820 89	61	27	2 61		91		
20	884 -	2°	883 86	1 65	S 28 E	96		94		

RECORD OF SURVEY

2/

MARLIN A-24

JOB NO. Conductor #9 DATE June 1973

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES				REMARKS
						NORTH	SOUTH	EAST	WEST	
21	939 -	2°	938 83	1 92	S 05 W		92	1 31		
22	1002 -	3°	1001 77	2 74	09		3 64	98		
23	1065 -	4°15'	1064 64	3 98	27		7 38		23	
24	1127 -	6°	1126 39	5 54	27		12 32		2 75	
25	1190 -	7°30'	1188 95	7 40	23		19 02		5 88	
26	1251 -	9°15'	1249 29	8 88	S 24 W		27 16		9 42	
27	1314 -	11°	1311 30	11 07	27		37 14		14 18	
28	1376 -	13°	1371 93	12 88	27		48 61		20 02	
29	1438 -	14°30'	1432 15	14 74	23		61 96		26 25	
30	1562 -	17°	1551 46	33 65	21		93 16		38 86	
31	1687 -	19°15'	1670 24	38 89	S 24 W		129 08		53 74	
32	1812 -	23°15'	1786 68	45 28	25		170 28		72 52	
33	1968 -	27°45	1927 38	67 11	26		230 85		101 41	
34	2124 -	32°30'	2062 20	78 23	27		300 86		136 32	
35	2488 -	34°	2366 57	199 58	27		478 68		226 92	
36	2989 -	34°45'	2780 05	282 86	S 28 W		729 58		357 54	
37	3488 -	34°45'	3190 03	284 43	30		978 31		495 43	
38	3990 -	35°15'	3601 22	287 95	31		1226 41		641 56	
39	4492 -	36°	4009 24	292 41	32		1475 71		794 34	
40	4987 -	36°45'	4407 81	293 58	35		1720 44		956 33	

RECORD OF SURVEY

3/

MARLIN A-24

JOB NO. Conductor # 9 DATE June 1973

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES				REMARKS
						NORTH	SOUTH	EAST	WEST	
41	5230 -	37°15'	4601 89	146 24	S 35 W		1840 24		1040 21	
42	5607 -	37°45'	4901 -	229 52	35		2028 26		1171 86	
43	5800 -	37°45'	5053 60	118 15	36		2124 44		1240 46	
44	6090 -	39°	5280 93	180 03	36		2270 08		1346 28	
45	6460 -	41°	5564 31	237 79	37		2461 21		1487 71	
46	6756 -	42°45'	5784 68	197 58	S 37 W		2619 00		1606 61	
47	6842 -	43°30'	5847 45	58 79	35		2666 56		1641 16	
48	6943 -	43°45'	5920 56	69 69	32		2724 65		1679 61	
49	7227 -	45°	6123 56	198 60	34		2891 18		1787 77	
50	7350 -	44°45'	6210 73	86 78	31		2964 34		1834 38	
51	7676 -	45°	6441 76	230 02	S 34 W		3158 26		1957 92	
52	7983 -	46°	6656 93	218 95	33		3340 84		2078 75	
53	8323 -	47°30'	6889 89	247 62	33		3548 51		2213 60	
54	8415 -	47°15'	6952 19	67 69	32		3605 60		2249 97	
55	8583 -	45°45'	7067 82	121 85	35		3707 17		2317 21	
56	8822 -	44°45'	7236 08	169 74	S 35 W		3846 22		2414 57	
57	9072 -	44°	7414 78	174 85	37		3987 66		2517 33	
58	9318 -	42°45'	7593 57	168 95	39		4120 78		2621 34	
59	9694 -	37°45'	7880 27	242 71	44		4302 38		2782 01	
60	9950 -	35°45'	8085 38	153 14	52		4404 60		2895 55	

RECORD OF SURVEY

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JOB NO. Conductor #9 MARLIN A-24 DATE June 1973

	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES				REMARKS
						NORTH	SOUTH	EAST	WEST	
61	10200 -	34°30'	8289 86	143 83	S 55 W		4490 14		3011 13	
62	10457 -	33°30'	8502 91	143 71	48		4579 44		3123 40	
63	10586 -	33°30'	8610 48	71 19	S 56 W		4623 16		3179 36	
64	10988 -	33°30'	8945 71	221 86	S 56 W		4747 22		3363 28	

CLOSURE:

5817.80

S 35°19' W

MAGNETIC INTERFERENCE FROM METAL PARTICLES EXPERIENCED FROM MEASURED DEPTH OF 8739ft

PE905647

This is an enclosure indicator page.
The enclosure PE905647 is enclosed within the container PE902334 at this location in this document.

The enclosure PE905647 has the following characteristics:

ITEM_BARCODE	= PE905647
CONTAINER_BARCODE	= PE902334
NAME	= Vertical Section and Plan Veiw Graphs
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= DIAGRAM
DESCRIPTION	= Vertical Section and Plan Veiw Graphs (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EASTMAN DIRECTIONAL DRILLING (AUST) PTY LTD.
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

MARLIN A-24

BOTTOM HOLE LOCATION CALCULATIONS USING RADIUS OF CURVATURE

COURSE LENGTH	MEASURED DEPTH	TRUE VERTICAL DEPTH	INCLINATION DEG	INCLINATION MIN	DIRECTION DEG	RECTANGULAR COORDINATES NORTH/SOUTH	RECTANGULAR COORDINATES EAST/WEST	TOTAL CURVATURE TOP	TOTAL CURVATURE BOTTOM
	0.	0.				0.	0.		
50.	50.	50.	0.	30.	S 87. E	-0.13 S	0.14 E	1.00	3.40
50.	100.	100.	0.	12.	N 81. E	-0.12 S	0.45 E	0.67	0.60
50.	150.	150.	0.	1.	N 0. E	-0.05 S	0.50 E	1.10	0.37
50.	200.	200.	0.	12.	S 52. E	-0.09 S	0.57 E	0.37	1.68
50.	250.	250.	0.	1.	N 0. E	-0.05 S	0.64 E	1.68	0.37
50.	300.	300.	0.	1.	N 0. E	-0.04 S	0.64 E	0.0	0.0
50.	350.	350.	0.	12.	N 54. W	0.04 N	0.60 E	0.37	0.78
50.	400.	400.	0.	15.	N 57. W	0.15 N	0.44 E	0.10	0.10
50.	450.	450.	0.	48.	N 58. E	0.54 N	0.44 E	1.20	5.01
50.	500.	500.	1.	20.	S 83. E	0.34 N	1.33 E	1.34	2.51
73.	573.	573.	1.	0.	S 74. E	0.05 N	2.79 E	0.56	0.49
30.	603.	603.	1.	0.	N 5. E	0.31 N	3.16 E	5.88	5.88
31.	634.	634.	2.	0.	N 30. E	1.07 N	3.41 E	3.36	4.95
21.	655.	655.	1.	45.	N 32. W	1.73 N	3.40 E	11.06	8.50
41.	696.	696.	1.	0.	N 20. W	2.61 N	2.96 E	2.15	1.87
31.	727.	727.	1.	0.	N 24. W	3.11 N	2.76 E	0.23	0.23
31.	758.	758.	1.	30.	S 89. W	2.77 N	2.22 E	3.42	6.98
32.	790.	790.	1.	15.	S 68. W	2.62 N	1.48 E	2.03	1.52
31.	821.	821.	1.	0.	S 27. W	2.21 N	1.04 E	3.31	2.20
63.	884.	884.	2.	0.	S 28. E	0.63 N	1.05 E	1.88	4.36
55.	939.	939.	2.	0.	S 5. W	-1.23 S	0.67 E	2.09	2.09
63.	1002.	1002.	3.	0.	S 9. W	-3.95 S	0.34 E	1.60	1.64
63.	1065.	1065.	4.	15.	S 27. W	-7.73 S	-0.89 W	2.34	3.18
62.	1127.	1126.	6.	0.	S 27. W	-12.66 S	-3.40 W	2.82	2.82
63.	1190.	1189.	7.	30.	S 23. W	-19.37 S	-6.53 W	2.45	2.55
61.	1251.	1249.	9.	15.	S 24. W	-27.52 S	-10.07 W	2.88	2.88
63.	1314.	1311.	11.	0.	S 27. W	-37.51 S	-14.84 W	2.86	2.95
62.	1376.	1372.	13.	0.	S 27. W	-49.00 S	-20.69 W	3.23	3.23
62.	1438.	1432.	14.	30.	S 23. W	-62.35 S	-26.92 W	2.78	2.96
124.	1562.	1552.	17.	0.	S 21. W	-93.55 S	-39.53 W	2.05	2.08
125.	1687.	1670.	19.	15.	S 24. W	-129.47 S	-54.40 W	1.92	1.99
125.	1812.	1787.	23.	15.	S 25. W	-170.69 S	-73.19 W	3.21	3.22
156.	1968.	1928.	27.	45.	S 26. W	-231.29 S	-102.09 W	2.89	2.90
156.	2124.	2062.	32.	30.	S 27. W	-301.34 S	-137.02 W	3.06	3.07
364.	2488.	2367.	34.	0.	S 27. W	-479.16 S	-227.62 W	0.41	0.41
501.	2989.	2780.	34.	45.	S 28. W	-730.06 S	-358.23 W	0.19	0.19
499.	3488.	3190.	34.	45.	S 30. W	-978.82 S	-496.12 W	0.23	0.23
502.	3990.	3602.	35.	15.	S 31. W	-1226.91 S	-642.25 W	0.15	0.15
502.	4492.	4010.	36.	0.	S 32. W	-1476.22 S	-795.03 W	0.19	0.19
495.	4987.	4408.	36.	45.	S 35. W	-1720.99 S	-957.04 W	0.38	0.40
243.	5230.	4602.	37.	15.	S 35. W	-1840.78 S	-1040.92 W	0.21	0.21
377.	5607.	4901.	37.	45.	S 35. W	-2028.78 S	-1172.56 W	0.13	0.13
193.	5800.	5054.	37.	45.	S 36. W	-2124.97 S	-1241.17 W	0.32	0.32
292.	6092.	5283.	39.	0.	S 36. W	-2271.62 S	-1347.72 W	0.43	0.43
368.	6460.	5565.	41.	0.	S 37. W	-2461.76 S	-1488.41 W	0.57	0.57
296.	6756.	5785.	42.	45.	S 37. W	-2619.55 S	-1607.31 W	0.59	0.59
86.	6842.	5848.	43.	30.	S 35. W	-2667.11 S	-1641.87 W	1.79	1.83
101.	6943.	5921.	43.	45.	S 32. W	-2725.21 S	-1680.32 W	2.05	2.07
284.	7227.	6124.	45.	0.	S 34. W	-2891.77 S	-1788.49 W	0.65	0.67

MARLIN A-24

BOTTOM HOLE LOCATION CALCULATIONS USING RADIUS OF CURVATURE

COURSE LENGTH	MEASURED DEPTH	TRUE VERTICAL DEPTH	INCLINATION DEG	INCLINATION MIN	DIRECTION DEG	RECTANGULAR COORDINATES NORTH/SOUTH	RECTANGULAR COORDINATES EAST/WEST	TOTAL CURVATURE TOP	TOTAL CURVATURE BOTTOM
123.	7350.	6211.	44.	45.	S 31. W	-2964.96 S	-1835.11 W	1.74	1.73
326.	7676.	6442.	45.	0.	S 34. W	-3158.93 S	-1958.69 W	0.65	0.66
307.	7983.	6657.	46.	0.	S 33. W	-3341.52 S	-2079.54 W	0.40	0.40
340.	8323.	6890.	47.	30.	S 33. W	-3549.20 S	-2214.41 W	0.44	0.44
92.	8415.	6953.	47.	15.	S 32. W	-3606.29 S	-2250.78 W	0.85	0.84
168.	8583.	7068.	45.	45.	S 35. W	-3707.90 S	-2318.03 W	1.60	1.55
239.	8822.	7236.	44.	45.	S 35. W	-3846.94 S	-2415.39 W	0.42	0.42
250.	9072.	7415.	44.	0.	S 37. W	-3988.37 S	-2518.15 W	0.64	0.63
246.	9318.	7594.	42.	45.	S 39. W	-4121.49 S	-2622.15 W	0.76	0.75
376.	9694.	7881.	37.	45.	S 44. W	-4303.33 S	-2783.03 W	1.63	1.54
256.	9950.	8086.	35.	45.	S 52. W	-4405.73 S	-2896.76 W	2.11	1.95
250.	10200.	8290.	34.	30.	S 55. W	-4491.28 S	-3012.37 W	0.87	0.84
257.	10457.	8503.	33.	30.	S 48. W	-4580.68 S	-3124.77 W	1.61	1.53
129.	10586.	8611.	33.	30.	S 56. W	-4624.48 S	-3180.83 W	3.42	3.42
402.	10988.	8943.	35.	0.	S 56. W	-4750.99 S	-3368.39 W	0.37	0.37

HORIZONTAL DEPARTURE = 5824. FEET AT SOUTH 35.DEG., 20. MIN. WEST (GRID)

11005' 8957 TD

MARLIN A-24 (I.S.S.) (28-5-73)

LOG DEPTH	HOLE ANGLE	HOLE DIRECTION	VERTICAL DEPTH	NORTH	EAST	TOTAL DRIFT
50.0	0-30	83.	49.9	0.1	0.1	0.2
100.0	0-12	81.	99.9	0.1	0.4	0.4
150.0	0- 0	81.	149.9	0.1	0.5	0.5
200.0	0-12	128.	199.9	0.1	0.6	0.6
250.0	0- 0	128.	249.9	0.0	0.7	0.7
300.0	0- 0	128.	299.9	0.0	0.7	0.7
350.0	0-12	326.	349.9	0.1	0.7	0.7
400.0	0-15	303.	399.9	0.2	0.5	0.6
450.0	0-48	58.	449.9	0.6	0.6	0.9
500.0	1-20	97.	499.9	0.8	1.5	1.7
573.0	1- 0	106.	572.9	0.5	3.0	3.0
603.0	1- 0	5.	602.9	0.8	3.3	3.4
634.0	2- 0	330.	633.9	1.6	3.1	3.5
665.0	1-45	328.	664.9	2.4	2.6	3.6
696.0	1- 0	340.	695.9	3.1	2.3	3.9
727.0	1- 0	286.	726.9	3.4	1.9	3.9
758.0	1-30	269.	757.9	3.5	1.2	3.7
790.0	1-15	266.	789.9	3.5	0.5	3.5
821.0	1- 0	207.	820.9	3.2	0.0	3.2
884.0	2- 0	152.	883.8	1.6	0.1	1.6
939.0	2- 0	185.	938.8	-0.2	0.5	0.5
1002.0	3- 0	189.	1001.7	-2.9	0.1	2.9
1065.0	4-15	207.	1064.6	-6.7	-1.1	6.8
1127.0	6- 0	207.	1126.4	-11.6	-3.6	12.2
1190.0	7-30	203.	1188.9	-18.4	-6.7	19.6
1251.0	9-15	204.	1249.3	-26.5	-10.3	28.5
1314.0	11- 0	207.	1311.3	-36.5	-15.0	39.5
1376.0	13- 0	207.	1371.9	-48.0	-20.9	52.4
1438.0	14-30	203.	1432.1	-61.4	-27.1	67.1
1563.0	17- 0	201.	1552.4	-92.9	-39.8	101.1
1687.0	19-15	254.	1670.3	-117.7	-67.6	135.7
1812.0	23-15	205.	1786.7	-146.8	-100.5	177.9
1968.0	27-45	206.	1927.5	-207.4	-129.5	244.5
2124.0	32-30	207.	2062.3	-277.5	-164.4	322.6
2488.0	34- 0	207.	2366.7	-455.3	-255.1	521.9
2989.0	34-45	208.	2780.2	-706.2	-385.7	804.7
3488.0	34-45	210.	3190.2	-955.0	-523.6	1089.1
3990.0	35-15	211.	3601.4	-1203.0	-669.7	1376.9
4492.0	36- 0	212.	4009.5	-1452.3	-822.5	1669.1
4987.0	36-45	215.	4408.0	-1697.1	-984.6	1962.0
5230.0	37-15	215.	4602.1	-1816.9	-1068.4	2107.8
5607.0	37-45	215.	4901.2	-2004.9	-1200.1	2336.6
5800.0	37-45	216.	5053.8	-2101.1	-1268.7	2454.4
6090.0	39- 0	216.	5281.1	-2246.7	-1374.5	2633.9
6460.0	41- 0	217.	5564.5	-2437.9	-1516.0	2870.9
6500.0	41- 0	217.	5594.7	-2458.9	-1531.8	2897.0

IV. GEOLOGY

(1) Summary of Previous Work

Exploration for oil and gas in the Gippsland Basin has been in progress since 1924 when oil and gas shows were encountered during the drilling of a water well near Lakes Entrance. A large number of wells were subsequently drilled by government agencies and private firms, all of which met with discouraging results (K.A. Richards, B.M. Hopkins, 1969).

The modern exploration phase commenced onshore in 1954, when geophysical methods were used to delineate drilling targets. None of those prospects drilled encountered significant hydrocarbon accumulations.

Offshore exploration began in 1960, when the Broken Hill Pty Ltd conducted an aeromagnetic survey over their offshore lease. In 1962 Hematite Petroleum (a wholly owned subsidiary of B.H.P.) shot 1005 miles of single-fold, analog seismic data.

In 1964, an agreement between Esso and B.H.P. was ratified for the exploration of the Gippsland Basin. Later that year Esso conducted the "EG" seismic survey (722 miles) and on June 5, 1965 completed the first Gippsland offshore well as a gas discovery (Barracouta-1, previously known as EGS-1)

Subsequent Esso/BHP seismic surveys are as follows:

1966	ET Survey
1967	EX Survey
	EC Survey
1968	EH Survey
	G69A Survey
1969	G69A Survey
	G69B Survey
1970	G69B Survey
	G70A Survey
1971	G71A Survey
	G71B Survey
1972	G72A Survey
1973	G73A Survey

Including the initial discovery, the drilling program to date has totalled 51 exploratory and stepout wells.

(2) Regional Geology

The Gippsland Basin occupies a portion of onshore Tasmania and South East Australia. Sedimentation has been continuous in some part of the basin from early Cretaceous to Recent time.

The Lower Cretaceous lacustrine and fluviatile greywackes of the Strzelecki Group were deposited within an east-west rift system, the north and south boundaries of which were created by the limits of extensional faulting.

Upper Cretaceous through Eocene rocks (the Latrobe Group) represent a continuation of the lacustrine-fluviatile environment except that the quartz sandstones are more mature and develop better reservoir characteristics. From early Paleocene through Eocene, the non-marine depositional environment had a laterally equivalent marginal marine and marine edge, primarily in the southeast portion of the basin. A substantial portion of the Eocene depositional patterns are attributed to a complex system of channel cut and fill and associated marine incursions, (E.A. James, P.R. Evans, 1971).

Rocks of Oligocene age are mainly fine grained marine mudstones which had slow depositional rates. The site of coarse clastic deposition was confined to the hinterland along a narrow zone in the Yallourn Valley in the north west portion of the onshore Basin area.

Sedimentation during Early Miocene was similar to that of the Oligocene whereas very rapid deposition of marls, bryozoal-skeletal limestones and calcarenites occurred during Late Miocene through Pliocene. Submarine channelling and gross scour and fill features dominate the depositional characteristics and the resulting bedding configuration. The loading effect of this rapid deposition resulted in severe isostatic adjustment of the central to eastern portion of the offshore Gippsland Basin, with considerable tilting and change of the original Basin form.

Major oil and gas deposits have been discovered in the basin, most of which are found in either anticlinal culminations or combined anticlinal-paleotopographic closures at the top of the Latrobe Group.

(3) Stratigraphic Table

Marlin A-24 was drilled as a development well through the upper part of the Latrobe Group to 6460 MD (5558' True Vertical Depth). The stratigraphy below this is summarized as follows:-

Age	Formation	Top	Subsea	Thickness
Eocene	Latrobe Group	5191 MD 4571 TVD	4477 TVD	1935'
Paleocene		7770 MD 6506 TVD	6412 TVD	2437' plus

(4) Stratigraphic Description

6460-7770 Mainly interbedded brown pyritic siltstone and grey to dark grey, carbonaceous, fissile to soft, shale with scattered interbeds of light brown, poorly sorted sandstone ranging from fine to very coarse grained. Coal beds up to ten feet thick occur throughout this interval. The section is more pyritic in the lower part.

7770-8610 Interbedded light to dark brown micaceous, carbonaceous siltstone and fine to very fine grained well sorted sandstone with scattered coarse grains and minor pyrite and glauconite. Minor interbeds of dark brown to black carbonaceous shale and a few thin coal beds.

8610-10860 Interbedded, brown, slightly carbonaceous siltstone, grey, carbonaceous shale, and medium to coarse grained sandstone. Numerous coal beds occur throughout the interval. Sands become finer grained in lower part of interval. Sands are gas bearing down to 10410, oil bearing from 10410 to 10610 and water bearing below that.

10860-10988 Interbedded brown shaley micaceous pyritic siltstone and light brown, fine grained, silty, clay choked, tight sandstone.

(5) Structure

At the intra Latrobe level of the Paleocene sands the Marlin structure has been mapped as consisting of four distinct fault blocks. In the "C" Block the Marlin-1 well found 72' of net gas in the Paleocene sands in the interval 7370'to 7610'subsea and the Marlin A-6 well located in the same major fault block intersected 142' of net gas in the interval 7448' to 8434' TVD subsea. This well also encountered 20' of net oil sand in the interval 8456' to 8496' TVD subsea.

Marlin A-24, a deviated well drilled from the Marlin Platform, was deepened below the productive horizons of the Marlin Field to test the Paleocene sands in the "D" Block.

The well encountered the first Paleocene gas sand at 7090' TVD subsea. This sand was not present in the other wells. The horizon marking the top of the Paleocene gas in the A-6 well was found in A-24 at 7565' TVD subsea which was 135 low to A-6 but 235 feet higher than predicted. The top of the A-6 oil sand which is the mapped horizon, came in at 8510' TVD subsea, 25' low to A-6 and 390 feet high to prediction. Following the drilling of A-24 a detailed study of the seismic control was made to identify the reasons for the marker horizons being substantially high to prediction. The resulting structure map, which is enclosed, shows that the fault pattern has remained essentially unchanged and that the A-24 well was drilled on a locally closed high. This high does not show on the seismic lines since they pass between half a mile and a mile from the well.

(6) Hydrocarbon Occurrence

Marlin A-24 encountered 252 feet (True Vertical Thickness) of net gas sands in 15 zones in the interval 7090' TVD subsea to 8224' TVD subsea. In the interval 8375' to 8591' TVD subsea it also encountered a 5 foot gas cap and 53 feet (True Vertical Thickness) of net oil sand. No water bearing sands were found throughout the interval from 7090' to 8541' TVD subsea. The oil water contact occurs at 8541' TVD subsea.

(7) Relevance to Occurrence of Petroleum

Marlin A-24 confirmed the presence of both gas and oil in the "D" Fault Block. As illustrated on the enclosed stratigraphic section the hydrocarbons occur in the same gross stratigraphic interval in each well although the correlation of individual sands is not apparent.

Since the gas and oil in A-24 occurs over approximately the same depth interval as in A-6 it cannot be determined if the reservoirs in the "C" and "D" Fault Blocks are actually separated by the fault or not.

The regional geological concepts have not changed as a result of Marlin A-24.

(8) Porosities and Permeabilities

Porosities through the gas zone averaged 19 percent and water saturations 17 percent. In the oil column porosities averaged 17 percent and water saturations 25 percent.

The detailed log analysis is included in Appendix 5 together with a table converting the measured thicknesses of the net gas and oil sands as taken from the electric logs to true vertical thicknesses.

V. REFERENCES

James, E.A., Evans, P.R. "The Stratigraphy of Offshore Gippsland Basin, Australia", APEA March, 1971

Richards, K.A., Hopkins, B.M. "Exploration in the Gippsland, Bass & Otway Basins, Australia", ECAFE, 1969.

APPENDIX 1

PALYNOLOGICAL REPORT
MARLIN A-24
VICTORIA, AUSTRALIA

October, 1973

ESSO PRODUCTION RESEARCH COMPANY

AGE INTERPRETATION FOR CORE 1 AT 10,484 TO 10,505 FEET, MARLIN A-24 WELL, GIPPSLAND BASIN, AUSTRALIA

Lewis E. Stover

Stratigraphic Geology Division

EPR.69ES.73

August, 1973

ESOA Paleontology
Report 1973/11

AGE INTERPRETATION FOR CORE 1 AT 10,484 TO 10,505 FEET, MARLIN A-24 WELL, GIPPSLAND BASIN, AUSTRALIA

by

Lewis E. Stover

The palynomorph assemblage from samples at 10,484, 10,491, and 10,505 feet in the Marlin A-24 well are interpreted as Early Paleocene and as from the *Tricolpites longus* zone.

Spore-pollen from the separate samples are sufficiently similar that they can be regarded as representing a single assemblage. Associated with the indigenous spore-pollen are extremely rare microplankton and redeposited Early Cretaceous spore-pollen. The latter are readily recognizable and distinguishable from the indigenous forms because the recycled forms are (1) better preserved, (2) darker in color and (3) represented by fewer and different species.

In-place spore-pollen are very poorly preserved, so much so that the majority of the specimens are identifiable at the generic rather than the specific level. The combined occurrence of *Dilwynites granulatus*, *Gambierina rudata*, *Lygistepollenites balmei* and *Stereisporites punctatus* indicates the assemblage is Paleocene. This association of species is not precise enough to distinguish between *L. balmei* and *T. longus* zone assemblages. The presence of *Trithyrodinium evittii*, however, confirms the assignment of the assemblage to the *T. longus* zone. Previous records of this species are from the *T. longus* zone in Flounder-1 and from the Early Paleocene (Danion) of California, U. S. A. (Drugg, 1967). The paucity of specimens of *Nothofagidites* spp. is additional evidence for the *T. longus* zone assignment. Palynomorphs identified from core 1 are listed below.

Palynomorphs from Marlin A-24, 10,484 to 10,505 feet.

Spore-pollen

Alisporites sp.
Cyathidites splendens
Cyathidites spp.
Dilwynites granulatus
Ericipites sp. (probably *E. scabratus*)
Gambierina rudata
Gleicheniidites spp.
Laevigatosporites spp.

Latrobosporites sp. (probably *L. amplus*)
Lygistepollenites balmei
Nothofagidites sp. (probably *N. endurus*)
Phyllocladidites mawsonii
Podocarpidites spp.
Podosporites microsaccatus
Periporopollenites polyoratus
Proteacidites sp. (probably *P. angulatus*)
Proteacidites sp. (probably *P. tenuiexinus*)
Proteacidites spp. (frequent specimens)
Rugulatisporites sp.
Stereisporites antiquasporites
Stereisporites punctatus
Tricolpites gillii
Tricolpites spp. (sparse specimens)

Dinoflagellates

Hystrichosphaeridium tubiferum
Trithyrodinium evittii

Redeposited Cretaceous Spores

Biretisporites spectibilis
Cicatricosisporites australiensis
Kuylisporites lunaris
Lycopodiacidites asperatus
Large reticulate grain (might be *Klukisporites scaberis*, but specimen is folded and no germinal structure was detected, not a specimen of *Schizosporis reticulatus*).

REFERENCE

Drugg, W. S., 1967, Palynology of the Upper Moreno Formation (Late Cretaceous-Paleocene) Escarpado Canyon, California: Palaeontographica B, v. 120, pp. 1-71.

BASIN GIPPSLAND DATE

WELL NAME MARLIN A-24 ELEVATION

PLATFORM WELL

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
MIO.	P. tuberculatus										
EOCENE	U. N. asperus										
	M. N. asperus										
	L. N. asperus										
	P. asperopolus										
	U. M. diversus										
	M. M. diversus										
	L. M. diversus										
PALEOCENE	U. L. balmei										
	L. L. balmei	10,484	1				10,505	1			
	T. longus										
CRETACEOUS	T. lilliei										
	N. senectus										
	C. trip./T.pach.										
	C. distocarin.										
	T. pannosus										
EARLY CRETACEOUS											
PRE-CRETACEOUS											

COMMENTS: *Trithyrodinium evittii Dinoflagellate Zone 10,484 (1) to 10,505 (1)*
Only three samples examined. Depths quoted are drilled depths and are uncorrected for deviation.

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

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

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

DATA REVISED BY: A.D. Partridge DATE February 1975

FORM No R 315 12/72

APPENDIX 2

GAS AND OIL ANALYSES
(TO BE PROVIDED WHEN REPORTS AVAILABLE)

MARLIN A-24

VICTORIA, AUSTRALIA

October, 1973

W670.

Geochem

26 JUN 1987

MARLIN A24
MLN-A24
Gippsland Basin 38 13 s. lat. 148 13 e. long.

#	M	FT	%I-C	%O-C	%N	%H	S1	S2	TMAX	PI	HI	GP
1	2052	6730	2.5	40.60	0.62	3.15	3.20	138.7	466	0.02	342	141.9
2	2061	6760	1.1	43.47	0.64	3.47	3.13	141.3	465	0.02	325	144.4
3	2070	6790	0.6	50.43	0.70	3.70	4.96	170.2	460	0.03	338	175.2
4	2101	6890	0.1	64.09	0.99	4.82	5.66	157.5	457	0.03	246	163.1
5	2149	7050	bdl	67.00	1.10	4.68	7.67	195.6	466	0.04	292	203.2
6	2159	7080	bdl	70.00	1.13	4.99	13.34	317.7	455	0.04	454	331.1
7	2201	7220	0.1	71.09	1.12	5.16	10.37	229.1	458	0.04	322	239.5
8	2305	7560	3.6	31.27	0.49	2.86	3.72	76.3	457	0.05	244	80.0
11	2473	8110	7.3	9.42	0.13	1.15	2.48	18.8	436	0.12	199	21.3
12	2540	8330	7.6	27.19	0.40	2.56	23.31	79.2	462	0.23	291	102.5
13	2713	8900	0.3	53.37	0.87	4.19	11.45	169.7	460	0.06	318	181.2
14	2756	9040	0.5	65.94	0.97	4.27	7.00	206.4	466	0.03	313	213.4
15	2845	9330	bdl	73.20	1.15	4.65	11.76	205.5	460	0.05	281	217.3
16	2893	9490	1.1	58.06	0.88	3.64	9.44	174.2	439	0.05	300	183.6
17	2899	9510	2.7	39.28	0.61	2.61	5.15	116.3	460	0.04	296	121.4
18	2973	9750	0.9	17.00	0.29	1.71	3.58	60.9	416	0.06	358	64.5
19	3012	9880	1.6	65.81	0.93	3.93	9.33	163.4	504	0.05	248	172.7
20	3055	10020	0.6	70.22	0.92	4.30	10.94	177.8	461	0.06	253	188.8
21	3140	10300	0.7	70.72	0.94	4.32	10.28	191.7	437	0.05	271	202.0
22	3146	10320	0.6	57.53	0.77	3.85	7.69	174.7	461	0.04	304	182.4
23	3168	10390	3.6	45.17	0.56	3.25	12.04	172.1	460	0.07	381	184.1
24	3210	10530	bdl	72.39	0.99	4.77	25.55	292.4	434	0.08	404	317.9
25	3277	10750	0.3	45.97	0.57	2.99	7.88	144.6	459	0.05	315	152.5
26	3329	10920	0.8	22.10	0.39	2.07	9.39	99.1	470	0.09	448	108.5

Pyrolysis run with CDS Pyroprobe and modified interface: TMAX inaccurate.
M is sample depth in meters.
FT is sample depth in feet.
%I-C is inorganic carbon as % calcium carbonate in rock.
%O-C is organic carbon as % carbon in rock.
%N is % nitrogen in rock.
%H is % hydrogen in rock.
S1 is pyrolysis free-hydrocarbon signal (mg hydrocarbons/g rock).
S2 is pyrolysis kerogen signal (mg S2 hydrocarbons/g rock).
PI is production index [S1/(S1+S2)].
TMAX is temperature at which S2 signal is maximum (deg C).
HI is hydrogen index (mg hydrocarbons/g O-C).
GP is genetic potential (kg hydrocarbons/ton rock) (S1+S2).
'bdl' means 'below detection limit'; '---' means 'not determined'.
'ndm' means 'no definitive maximum'.

APPENDIX 3

DESCRIPTION OF CUTTINGS SAMPLES

MARLIN A-24

VICTORIA, AUSTRALIA

October, 1973

SAMPLE DESCRIPTIONS - MARLIN A-24

DEPTH	%	DESCRIPTION
5140-5150	10	Limestone, light grey to white, micritic, massive, weakly shaly
	70	Calcareous marly shale, light grey green, fossiliferous, pyritic
	20	Marl, grey green, very abundant fossiliferous hash, forams, etc, pyritic. Trace carbonaceous shale? - black
5150-5160	20	Limestone, micritic as above
	70	Calcareous, marly shale as above
	10	Sandstone, grey, medium to fine grained, angular to rounded, moderately well sorted, quartzose, dolomitic and glauconitic matrix - although friable and non cemented in part.
5160-5170	20	Limestone as above
	60	Calcareous marly mudstone as above
	20	Sandstone as above
5170-5180	70	Calcareous marly mudstone as above
	30	Sandstone as above, glauconitic, dolomitic, pyritic, medium to coarse grained, angular to rounded.
5180-5190	90	Sandstone, grey to white, medium to coarse grained, friable, moderately well sorted, angular to rounded, quartzose
	10	Sandstone, grey, dolomitic, glauconitic, cemented
5190-5200	100	Sandstone as above
5200-5210	100	Sandstone
5210-5220	100	Sandstone as above
5220-5230	100	Sandstone as above Trace pyrite - no dolomite cementation
5230-5240) 5240-5250)	100	Sandstone as above
5250-5260	80	Sandstone as above
	20	Carbonaceous shale, black to dark brown
5260-5270	70	Sandstone - no dolomite
	30	Coal and shaly coal
5270-5280	100	Coal, black bituminous
5280-5290	100	Coal, black as above
5290-5300	70	Coal as above
	20	Carbonaceous shale as above
	10	Sandstone as above, grey, medium to coarse grained, fairly well sorted, angular to rounded, non dolomitic
5300-5310)	40	Sandstone - no dolomite
5310-5320)	50	Coal
	10	Shaly coal
5320-5330	40	Shaly coal as above
	20	Coal as above
	40	Sandstone as above
5330-5340	40	Sandstone, dolomitic
	30	Coal
	30	Shaly coal
5340-5350	50	Sandstone as above - dolomitic in part
	30	Shaly coal
	20	Coal

..2/

DEPTH	%	DESCRIPTION
5350-5360	90	Sandstone, as above. 10% dolomite, friable
	10	Coal and shaly coal
5360-5370	90	Sandstone as above
	10	Coal as above
5370-5380	100	Sandstone as above, dolomite % = 10-20
5380-5390	100	Sandstone as above, 20% dolomite
5390-5400	100	Sandstone as above. 10-20% dolomite
5400-5410	100	Sandstone as above, 30% dolomitic
5410-5420	100	Sandstone. 50% dolomitic - indirectly - all quartz highly angular probably mashed during slow drilling - due dolomite. Some cemented aggregates.
5420-5430	100	Sandstone, dolomitic
5430-5440	100	Sandstone, dolomitic
5440-5450) 5450-5460) 5460-5470)	100	Sandstone as above
5470-5480	100	Sandstone, dolomitic - 10%
5480-5490	60	Sandstone as above
	40	Coal
5490-5500	10	Sandstone
	50	Carbonaceous shale, light to dark brown, coaly, locally silty
	40	Coal, black, brown-black.
5500-5510	50	Sandstone, highly dolomitic
	40	Coal
	10	Shaly coal
5510-5520	60	Sandstone, dolomitic
	30	Coal
	10	Shaly coal
5520-5530	30	Sandstone, dolomitic
	40	Shaly coal
	30	Coal
5530-5540	60	Sandstone, dolomitic
	40	Shaly coal, dark brown, brown, subfissile
5540-5550) 5550-5560)	60	Sandstone, dolomitic
	40	Shaly coal as above
5560-5570	80	Sandstone, dolomitic
	20	Shaly coal + coal. Trace brown carbonaceous shale
5570-5580) 5580-5600)	90	Sandstone, dolomitic and also friable
	10	Shaly coal
5600-5610	50	Sandstone - dolomitic and friable
	50	Shaly coal, trace shale
5610-5620	100	Coal as above
5620-5630	100	Coal

v. poor samples - abundant cavings

..3/

DEPTH	%	DESCRIPTION
5630-5640	80	Coal
	20	Sandstone, dolomitic
5640-5650) 5650-5660)	100	Coal
5660-5670	70	Coal
	20	Sandstone - dolomitic
	10	Shale, dark brown, carbonaceous
5670-5680	80	Sandstone, friable, trace dolomite
	20	Shaly coal
5680-5690	90	Coal
	10	Sandstone, friable
5690-5700	80	Sandstone as above
	20	Coal as above
5700-5710	100	Sandstone, friable, trace dolomite
5710-5720) 5720-5730) 5730-5740)	100	Sandstone
5740-5750)	90	Sandstone, friable - 20 % dolomitic
5750-5760)	10	Shaly coal
5750-5760) 5760-5770) 5780-5790)	100	Coal.
5790-5800	90	Coal as above
	10	Sandstone as above
5800-5810	100	Coal as above
5810-5820	100	Coal as above
5820-5830	80	Coal, black, as above
	10	Siltstone, light brown, carbonaceous, shaly, micaceous flecks, dolomitic.
	10	Sandstone, grey, white to light brown (if dolomitic), friable to consolidated by cementation.
5840-50	70	Coal, black as above
	30	Siltstone as above
5850-5860	60	Coal as above
	40	Siltstone, dolomitic in part as above
5860-5870	70	Coal as above
	30	Siltstone as above
		Trace sandstone, medium to coarse grained, friable
5870-5880	60	Coal as above
	40	Siltstone as above, partly dolomitic, trace pyrite
		Trace sandstone
5880-5890	80	Coal
	20	Shaly siltstone as above
5890-5900	80	Coal as above
	20	Shaly siltstone as above

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DEPTH	%	DESCRIPTION
5900-5910	50	Coal
	50	Siltstone - sandy, light to buff, dolomitic, hard, well cemented, carbonaceous flecks, pyritic. Trace sandstone
5910-5920	60	Coal as above
	40	Siltstone as above
5920-5930	50	Coal as above
	50	Siltstone as above
5930-5940	70	Coal
	30	Siltstone, shaly
5940-5950	60	Coal as above
	40	Siltstone as above
5950-5960	60	Coal as above
	40	Siltstone as above
5960-5970)	50	Coal as above
5970-5980)	50	Siltstone as above
5980-5990	60	Coal as above
	40	Siltstone as above
5990-6000)	80	Coal
6000-6010)	20	Siltstone as above, trace dolomite Trace medium to coarse grained sandstone
6010-6020	60	Coal, black
	30	Siltstone as above
	10	Sandstone, grey to buff
6020-6030)	70	Coal as above
6030-6040)	30	Siltstone as above
6040-6050	30	Coal as above
	20	Siltstone as above
	50	Sandstone, grey, white, friable, nondolomitic
6050-6060	30	Sandstone, as above, dolomitic in part.
	70	Coal, as above
6060-6070	60	Sandstone as above, trace pyrite
	40	Coal as above
6070-6080	50	Sandstone as above
	40	Coal
	10	Shaly siltstone - also dolomitic in part
6080-6090		NO SAMPLE - NEW BIT AT 6090.
6090-6100	60	Coal as above
	30	Sandstone as above
	10	Shaly siltstone as above
6100-6110	80	Coal as above
	10	Shaly siltstone as above
	10	Siltstone - cark brown, carbonaceous, as above
6110-6120	60	Coal
	30	Shaly siltstone
	10	Shale - carbonaceous, dark brown

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DEPTH	%	DESCRIPTION
6120-6130	70	Coal, black, as above
	20	Shaly siltstone and siltstone
	10	Shale - dark brown - carbonaceous
		Trace sandstone.
6130-6140	80	Coal as above
	20	Siltstone - light brown, shaly matrix, dolomitic, sandy with fine grained associated sandstone.
6140-6150	60	Coal
	20	Shale, locally silty
	20	Sandstone, grey, medium coarse grained, angular to rounded, friable, weakly dolomitic.
6150-6160	70	Coal
	30	Shaly siltstone
6160-6170	90	Coal as above
	10	Shale - carbonaceous
6170-6180	80	Coal as above
	20	Shale as above
6180-6190	70	Coal as above
	20	Shale as above
	10	Sandstone
6190-6200	50	Coal
	40	Sandstone with associated siltstone
	10	Shale as above
6200-6210	50	Coal as above
	30	Siltstone as above
	20	Sandstone, grey, medium to fine grained, in parts dolomitic
6210-6220)	50	Coal as above
6220-6230)	50	Sandstone as above
6230-6240	70	Sandstone, grey, medium to coarse grained, angular to rounded, mildly dolomitic, friable.
	30	Shaly coal, as above
6240-6250)	90	Coal as above
6250-6260)	10	Shale as above
6260-6270)		
6270-6280	80	Coal, black
	10	Siltstone as above
	10	Shale, dark brown, as above
6280-6290)	100	Coal
6290-6300)		
6300-6310)		
6310-6320	100	Coal
6320-6330)	80	Coal
6330-6340)	20	Shaly coal
6340-6350)	80	Coal
6350-6360)	20	Shale coal
		Trace siltstone

..6/

DEPTH	%	DESCRIPTION
6360-6370)	100	Coal as above
6370-6380)		
6380-6390	50	Coal
	40	Sandstone, grey, friable, medium to coarse grained, angular to rounded, moderately well sorted
	10	Silty shale
6390-6400	70	Coal as above
	30	Sandstone as above
6400-6410	80	Coal as above
	20	Sandstone as above, dolomitic
6410-6420)	90	Coal as above
6420-6430)	10	Sandstone as above - dolomitic
643[illegible]440	80	Coal
	10	Sandstone - dolomitic
	10	Shale - coaly
6440-6450	100	Coal
6450-6460	80	Coal
	20	Siltstone - shale

SAMPLE DESCRIPTIONS

MARLIN A-24 — 1 to 4.6.1973
J. DAVIDSON

DEPTH	%	DESCRIPTION
6470-6480	40	Sandstone, medium to fine grained, poorly sorted, light brown, carbonaceous streaks, odd loose coarse grains, subangular.
	40	Siltstone, brown, pyritic.
	20	Coal, black, vitreous, conchoidal fracture, blending gas, pyritic.
6480-6490	10	Sandstone as above, mainly loose grains.
	50	Siltstone as above
	40	Coal as above
6490-6500		As above
6500-6510	10	Sandstone as above
	20	Siltstone as above
	30	Shale, grey, fissile to soft
	40	Coal
6510-6520	10	Shale as above
	90	Coal
6520-6530	10	Siltstone as above
	20	Shale as above
	70	Coal as above
6530-6540	10	Siltstone, light brown, very pyritic
	60	Shale as above, pyritic
	30	Coal, pyritic
6540-6550	60	Siltstone as above
	20	Shale as above
	20	Coal as above
6550-6560	30	Siltstone as above
	20	Shale as above - some becoming carbonaceous
	50	Coal as above
6560-6570	50	Sandstone, coarse to very coarse, loose grains, rounded to subrounded, some pyrite coating on grains.
	10	Siltstone as above
	20	Shale as above
	20	Coal as above
6570-6580	20	Sandstone as above
	20	Siltstone as above
	30	Shale as above
	30	Coal as above
6580-6590	10	Sandstone as above
	10	Siltstone as above
	30	Shale as above
	50	Coal as above
6590-6600	10	Coarse to very coarse sandstone as above, also coarse sandstone, rounded to subrounded, white clay and pyrite cemented
	10	Siltstone as above
	60	Grey shale as above
	20	Coal as above
6600-6610	20	Sandstone as above
	50	Siltstone as above
	10	Shale as above
	20	Coal as above
6610-6620	10	Sandstone as above
	40	Siltstone as above
	30	Shale as above
	20	Coal as above

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DEPTH	%	DESCRIPTION
6620-6630	50	Sandstone, rare, very coarse grains as above, mostly medium to coarse grained, well sorted sandstone, minor clay and pyrite matrix, well rounded.
	30	Siltstone as above
	10	Shale as above
	10	Coal as above
6630-6640	10	Sandstone as above
	20	Siltstone as above, less pyritic
	40	Grey shale as above
	30	Coal as above
6640-6650	10	Sandstone as above
	20	Siltstone as above
	50	Shale as above
	20	Coal as above
6650-6660	10	Sandstone as above
	60	Shale as above
	30	Coal as above
6660-6670	10	Siltstone, dark brown and carbonaceous
	60	Shale, grey as above, some carbonaceous streaks
	30	Coal, little pyrite
6670-6680	10	Sandstone, medium to fine, well rounded, dominantly loose grains - rare samples medium sand grade rounded glauconite in a white clay matrix
	50	Grey shale as above
	40	Coal as above
6680-6690	10	Sandstone as above
	20	Siltstone, light brown
	50	Shale as above
	20	Coal as above
6690-6700		As above
6700-6710	10	Carbonaceous shale
	90	Coal, black, vitreous, bleeding gas
6710-6720	30	Carbonaceous shale and grey shale, friable
	70	Coal as above
6720-6730	10	Carbonaceous shale
	90	Coal
6730-6740		As above
6740-6750		As above
6750-6760	10	Siltstone, light brown and carbonaceous
	20	Shale, light grey, friable
	70	Coal as above
6760-6770	20	Siltstone as above, pyritic
	20	Shale as above
	60	Coal as above
6770-6780	10	Siltstone as above
	40	Shale as above
	50	Coal as above
6780-6790	10	Siltstone as above
	60	Shale, very carbonaceous
	30	Coal as above
6790-6800	30	Carbonaceous shale as above
	70	Coal as above
6800-6810	40	Shale, grey and friable and carbonaceous shale
	60	Coal as above

..3/

DEPTH	%	DESCRIPTION
6810-6820	10	Light brown and carbonaceous siltstone
	20	Shale as above, very little light grey component, fissile
	70	Coal
6820-6830		As above
6830-6840		As above
6840-6850	Trip Sample	
	20	Shale as above, pipe dope etc.
	80	Coal as above
6850-6860	20	Siltstone as above
	20	Shale as above
	60	Coal as above
6860-6870		Trace medium grained loose sandstone, rounded
	20	Siltstone as above
	20	Shale as above
	60	Coal as above
6870-6880		As above
6880-6890	10	Sandstone, fine, white with brown matrix, poorly sorted
	20	Siltstone as above
	20	Shale as above
	50	Coal as above
6890-6900	100	Coal. Traces of pyrite
6900-6910	20	Siltstone, black, carbonaceous
	10	Shale, black and carbonaceous
	70	Coal as above
6910-6920		As above
6920-6930	40	Siltstone as above
	20	Shale as above
	40	Coal
6930-6940	Trip sample	
	40	Siltstone, brown and as above
	20	Shale, brown and as above, fissile
	40	Coal as above
6940-6950	30	Siltstone, black, carbonaceous
	10	Shale, black, carbonaceous
	60	Coal
6950-6960		As above
6960-6970	20	Siltstone as above
	10	Shale as above
	70	Coal as above
6970-6980		As for 6940-6950
6980-6990		As above
6990-7000	10	Siltstone as above. Some light brown pieces
	20	Shale as above
	70	Coal - rare amber fluorescence
7000-7010	10	Sandstone, medium to fine, white dolomite fluorescence, bleeding from water, subangular
	30	Carbonaceous shale as above
	60	Coal as above, amber fluorescence
7010-7020	40	Siltstone as above
	40	Shale as above
	20	Coal as above

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DEPTH	%	DESCRIPTION
7020-7030	10	Siltstone as above
	40	Shale as above
	50	Coal as above
7030-7040	20	Siltstone as above
	20	Shale as above
	60	Coal as above
7040-7050		As above
7050-7060	20	Siltstone as above
	60	Shale as above
	20	Coal as above
7060-7070	30	Shale as above
	70	Coal as above
7070-7080		As above
7080-7090	20	Shale as above
	80	Coal as above
7090-7100		As above
7100-7110		As above
7110-7120	20	Siltstone as above
	30	Shale as above
	50	Coal as above
7120-7130	Trace	sandstone, medium, angular, loose grains
	30	Siltstone as above
	20	Shale as above
	50	Coal as above
7130-7140		As above, no sandstone
7140-7150		As above
7150-7160	30	Dominantly carbonaceous siltstone as above, some brown fragments
	20	Shale as above
	50	Coal as above
7160-7170	10	Siltstone as above
	40	Shale as above
	50	Coal as above
7170-7180	20	Shale as above
	80	Coal as above
7180-7190		As above
7190-7200	30	Shale as above
	70	Coal as above
7200-7210		As above
7210-7220		As above
7220-7230	40	Shale as above
	60	Coal as above
7230-7240	30	Shale as above
	70	Coal as above
7240-7250	40	Shale as above, some light grey fragments
	60	Coal as above
7250-7260	60	Shale as above, dominantly light grey to brown fragments
	40	Coal as above
7260-7270	100	Coal

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DEPTH	%	DESCRIPTION
7270-7280		Trace fine sandstone, dirty, angular
	40	Shale, dark brown to black, very carbonaceous
	60	Coal as above
7280-7290	10	Shale as above
	90	Coal as above
7290-7300		As above
7300-7310	10	Siltstone, dark brown to black, carbonaceous
	20	Shale as above
	70	Coal as above
7310-7320	10	Siltstone as above
	10	Shale as above
	80	Coal as above
7320-7330	20	Shale as above
	80	Coal as above
7330-7340		As above
7340-7350		As above
7350-7360		Trace medium loose sandstone grains, subrounded.
	30	Siltstone, light brown, micaceous and carbonaceous,and dark brown to black carbonaceous siltstone as above.
	30	Shale, brown and black (carbonaceous) varieties, about equal proportions
	40	Coal as above
7360-7370	10	Sandstone, medium to fine grained, subrounded to angular, poorly sorted forams and muscovite flakes and glauconitics
	60	Siltstone, light brown, micaceous as above
	20	Shale as above
	10	Coal as above
7370-7380	10	Sandstone as above
	40	Siltstone as above
	40	Shale as above
	10	Coal as above
7380-7390	20	Sandstone as above. Loose coarse angular grains
	60	Siltstone as above
	10	Shale as above
	10	Coal as above
7390-7400		As above
7400-7410	10	Sandstone as above, and loose angular grains, few forams
	70	Siltstone as above
	10	Shale as above
	10	Coal as above
7410-7420		As above
7420-7430		Trace sandstone as above
	30	Siltstone as above
	20	Shale as above
	50	Coal as above
7430-7440		Trace sandstone as above
	70	Siltstone as above
	20	Shale as above
	10	Coal as above
7440-7450		Trace sandstone as above
	60	Siltstone as above
	20	Shale as above
	20	Coal as above
7450-7460		As above
7460-7470		As above

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DEPTH	%	DESCRIPTION
7470-7480		Trace sandstone as above
	30	Siltstone as above
	20	Shale as above
	50	Coal as above
7480-7490	10	Siltstone as above
	20	Shale, light brown and carbonaceous types
	70	Coal as above
7490-7500	20	Sandstone, fine to very fine, white, subrounded to angular
	20	Siltstone as above
	30	Shale as above
	30	Coal as above
7500-7510	10	Sandstone as above
	30	Siltstone as above
	30	Shale as above
	30	Coal as above
7510-7520	10	Sandstone as above
	60	Siltstone as above
	20	Shale as above
	10	Coal as above
7520-7530		As above
7530-7540		As above
7540-7550	10	Sandstone as above
	70	Siltstone as above
	10	Shale as above
	10	Coal as above
7550-7560		As above
7560-7570	10	Fine sandstone as above, no fossils
	30	Siltstone, dark brown, micaceous and carbonaceous
	30	Shale, dark brown and black, carbonaceous
	30	Coal as above
7570-7580	20	Sandstone as above
	20	Siltstone as above
	10	Shale as above
	50	Coal as above
9580-7590		As above
7590-7600	10	Sandstone as above
	30	Siltstone as above
	40	Shale as above
	20	Coal as above
7600-7610	20	Sandstone, fine as above, half loose coarse medium grains
	10	Siltstone as above
	40	Shale as above
	30	Coal as above
7610-7620	40	Sandstone as above
	30	Siltstone as above
	20	Shale as above
	10	Coal. Cas in 4' sand at 7615-20.
7620-7630		As above
7630-7640	30	Sandstone, fine, very dirty, some loose grains, still the odd glauconite pellet
	30	Siltstone as above
	30	Shale as above
	10	Coal as above
7640-7650		As above

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DEPTH	%	DESCRIPTION
7650-7660	Trip sample	
	10	Sandstone as above
	20	Siltstone as above
	10	Shale as above
	60	Coal as above
7660-7670	30	Sandstone, coarse to very coarse, angular, loose grains
	30	Siltstone as above
	10	Shale as above
	30	Coal as above
7670-7680	10	Sandstone as above plus fine subrounded sandstone, sorted, white clay matrix
	50	Siltstone as above, little carbonaceous content
	20	Shale as above
	20	Coal as above
7680-7690	10	Sandstone as above, very minor glauconite fragments
	40	Siltstone as above
	30	Shale as above
	20	Coal as above
7690-7700	40	Sandstone, fine to very fine, subrounded, well sorted, white clay matrix
	40	Siltstone as above
	10	Shale as above
	10	Coal as above
7700-7710	10	Sandstone as above
	40	Siltstone as above
	40	Shale as above
	10	Coal as above
7710-7720	30	Sandstone as above
	50	Siltstone as above
	10	Shale as above
	10	Coal as above
7720-7730	10	Sandstone as above
	80	Siltstone as above
	10	Coal as above
7730-7740	10	Sandstone as above plus coarse loose grains
	20	Siltstone as above
	40	Shale as above
	30	Coal as above
7740-7750	80	Sandstone, coarse loose grains, angular
	10	Siltstone as above
	10	Shale as above
7750-7760	60	Sandstone, fine to very fine as above and odd coarse grains
	20	Siltstone as above
	10	Shale as above
	10	Coal as above
7760-7770	30	Sandstone as above
	30	Siltstone as above
	30	Shale as above
	10	Coal as above
7780-7790		Trace sandstone as above
	80	Siltstone(increasing amount of pyrite) as above
	10	Shale as above
	10	Coal as above
7790-7800	10	Sandstone, fine to very fine, as above
	50	Siltstone as above
	20	Shale as above
	20	Coal as above
7800-7810	10	Sandstone as above
	20	Siltstoneas above
	30	Shale asabove 40% Coal as above

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DEPTH	%	DESCRIPTION
7810-7820		Trace sandstone as above
	80	Siltstone as above
	10	Shale as above
	10	Coal as above
7820-7830		Trace sandstone as above
	60	Siltstone as above
	10	Shale as above
	30	Coal as above
7830-7840		As above
7840-7850	20	Sandstone as above - friable - porosity probably high
	40	Siltstone as above
	20	Shale as above
	20	Coal as above
7850-7860	10	Sandstone as above
	30	Siltstone as above
	40	Shale as above
	20	Coal as above
7860-7870		Trace sandstone as above
	50	Siltstone as above
	40	Shale as above
	10	Coal as above
7870-7880		Trace fine sandstone as above
	80	Siltstone as above
	20	Shale as above
		Trace coal as above
7880-7890	30	Sandstone, fine to very fine, dirty, trace pyrite
	60	Siltstone as above
	10	Shale as above
7890-7900	10	Sandstone as above
	60	Siltstone as above
	30	Shale as above
7900-7910		Trace sandstone as above
	80	Siltstone as above
	20	Shale as above
7910-7920		As above
7920-7930		Trace sandstone
	70	Siltstone as above
	30	Shale as above
7930-7940	10	Sandstone as above
	80	Siltstone as above
	10	Shale as above
7940-7950		Trace sandstone as above, some loose coarse grains
	80	Siltstone as above
	20	Shale as above
7950-7960	10	Sandstone as above
	90	Siltstone as above
7960-7970	10	Sandstone as above
	50	Siltstone as above
	20	Shale as above
	20	Coal as above
7970-7980	80	Sandstone, medium to fine, subrounded, well sorted.
	10	Siltstone as above
	10	Coal as above
7980-7990	40	Sandstone as above
	40	Siltstone as above
	10	Shale as above
	10	Coal as above

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DEPTH	%	DESCRIPTION
7990-8000		Trip sample
	10	Sandstone as above
	50	Siltstone as above
	30	Shale as above
	10	Coal as above
8000-8010	10	Sandstone, medium to very fine, dirty, poorly sorted, subrounded to angular
	60	Siltstone, brown to dark brown, low carbon content, micaceous as above
	30	Shale as above
8010-8020	70	Sandstone as above
	10	Siltstone as above
	10	Shale as above
	10	Coal as above
8020-8030	10	Sandstone as above
	30	Siltstone as above. Some cuttings more carbonaceous
	30	Shale as above
	30	Coal as above
8030-8040	30	Sandstone as above
	30	Siltstone as above
	20	Shale as above
	20	Coal as above
8040-8050	10	Sandstone as above
	60	Siltstone as above
	30	Coal as above
8050-8060	10	Sandstone as above
	40	Siltstone as above
	20	Shale as above
	30	Coal as above
8060-8070	20	Sandstone as above and clean medium to fine sandstone, subrounded and well sorted, some loose very coarse grains, rounded.
	50	Siltstone as above
	10	Shale as above
	20	Coal as above
8070-8080	20	Sandstone as above
	30	Siltstone as above
	20	Shale as above
	30	Coal as above
8080-8090		As above
8090-8100	30	Clean medium sandstone as above
	30	Siltstone as above
	10	Shale as above
	30	Coal as above
8100-8110	20	Clean medium sandstone as above and dirty fine to very fine sandstone
	60	Siltstone as above
	20	Coal as above
8110-8120		Trace sandstone as above
	20	Siltstone as above
	70	Shale as above
	10	Coal as above
8120-8130	10	Sandstone as above
	60	Siltstone as above
	10	Shale as above
	20	Coal as above

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DEPTH	%	DESCRIPTION
8130-8140	50	Sandstone as above plus loose coarse grains
	40	Siltstone as above
	10	Coal as above
8140-8150	20	Sandstone as above
	20	Siltstone as above
	50	Shale as above
	10	Coal as above
8150-8160	20	Sandstone as above
	50	Siltstone as above
	30	Shale as above
8160-8170	70	Sandstone, loose grains, coarse, subangular to subrounded
	30	Siltstone as above
		Gas shows with this sandstone and others above - probably 3-5' sands.
8170-8180	30	Sandstone as above plus medium sandstone as above and dirty fine, very fine as above
	40	Siltstone as above
	30	Shale as above
8180-8190	40	Sandstone as above
	40	Siltstone as above
	20	Shale as above
		Trace coal as above
8190-8200	10	Sandstone, medium to fine sandstone as above
	80	Siltstone as above
	10	Coal as above
8200-8210	20	Sandstone as above plus loose coarse subrounded grains
	80	Siltstone as above
8210-8220	50	Sandstone as above
	30	Siltstone as above
	10	Shale as above
	10	Coal as above
8220-8230	30	Sandstone as above
	70	Siltstone as above
8230-8240	10	Sandstone as above
	80	Siltstone as above
	10	Shale as above
8240-8250	50	Sandstone as above
	40	Siltstone as above
	10	Shale as above
8250-8260		As above
8260-8270	10	Sandstone as above
	70	Siltstone as above
	20	Shale as above
8270-8280	20	Sandstone as above
	40	Siltstone as above
	40	Shale as above
8280-8290	20	Sandstone, medium, well sorted, subangular
	60	Brown siltstone, micaceous
	20	Dark brown to black shale as above
8290-8300		As above
8300-8310	40	Sandstone, very fine to fine, clean, white clay matrix
	40	Siltstone as above
	10	Shale as above
	10	Coal as above

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DEPTH	%	DESCRIPTION
8310-8320	50	Sandstone as above
	40	Siltstone as above
	10	Coal as above
8320-8330		Trip sample
	10	Sandstone as above
	70	Siltstone as above
	20	Shale as above
8330-8340	40	Sandstone as above. Loose quartz and mica grains,
	40	Siltstone as above.
	20	Shale as above
8340-8350	20	Sandstone as above
	70	Siltstone as above
	10	Shale as above
8350-8360		As above
8360-8370	80	Sandstone, medium grained, well sorted, subangular
	20	Siltstone as above
8370-8380	50	Sandstone as above
	40	Siltstone as above
	10	Shale as above
8380-8390	20	Sandstone as above
	50	Siltstone as above
	30	Shale as above
8390-8400	30	Sandstone as above . Some loose very coarse grains
	60	Siltstone as above
	10	Shale as above
8400-8410		As above
8410-8420	10	Sandstone as above. No loose coarse grains
	70	Siltstone as above
	10	Shale as above
	10	Coal as above
8420-8430		As above
8430-8440	10	Sandstone as above
	50	Siltstone as above
	40	Shale as above
8440-8450	70	Sandstone, medium to fine, some very dirty and carbonaceous
	20	Light brown micaceous siltstone as above
	10	Coal as above
8450-8460		Trace sandstone as above
	10	Siltstone as above
	40	Shale as above
	50	Coal as above
8460-8470	10	Siltstone as above
	60	Shale as above
	30	Coal as above
8470-8480	20	Sandstone as above
	50	Siltstone as above
	20	Shale as above
	10	Coal as above
8480-8490	10	Sandstone as above
	70	Siltstone as above
	20	Shale as above
8490-8500		As above

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DEPTH	%	DESCRIPTION
8500-8510		Trace sandstone as above
	70	Siltstone as above, also a trace of lateritic siltstone
	30	Shale
8510-8520		Trace sandstone as above
	80	Siltstone as above (half of it lateritic - the hematite affected the Eastman survey at 8509 - made it read S60 odd W instead of S30 odd W (unconformity?))
	20	Shale as above
8520-8530	10	Sandstone as above
	50	Siltstone as above
	40	Shale as above
8530-8540		Trace sandstone as above
	60	Siltstone as above (about ¼ lateritic siltstone)
	40	Shale, grey to dark brown, friable to fissile
8540-8550	40	Siltstone as above (no lateritic siltstone)
	40	Shale as above
	20	Coal as above
8550-8560	40	Siltstone as above
	30	Shale as above
	30	Coal as above
8560-8570	100	Coal as above
8570-8580	50	Black carbonaceous shale
	50	Coal as above
8580-8590		Trip sample
	10	Sandstone as above
	60	Siltstone as above (some lateritic siltstone)
	20	Shale as above
	10	Coal as above
8590-8600		Trace sandstone as above
	30	Siltstone as above (no lateritic siltstone)
	30	Shale as above (more dark to black component)
	40	Coal as above
8600-8610	10	Sandstone as above
	50	Siltstone as above
	30	Shale as above
	10	Coal as above
8610-8620	70	Sandstone, coarse to very coarse loose grains, rounded to subangular
	10	Siltstone as above
	10	Shale as above
	10	Coal as above
8620-8630	50	Sandstone as above
	30	Siltstone as above
	40	Shale as above
	10	Coal as above
8630-8640	70	Sandstone, coarse to very coarse, angular
	10	Siltstone as above
	20	Coal as above
8640-8650	40	Sandstone as above and medium to fine sorted subangular
	10	Siltstone
	10	Shale as above
	40	Coal

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DEPTH	%	DESCRIPTION
8650-8660	30	sandstone as above
	30	Siltstone as above
	20	Shale as above
	20	Coal as above
8660-8670	30	Shale as above
	70	Coal as above
8670-8680	20	Sandstone as above
	40	Siltstone as above
	20	Shale as above
	20	Coal as above

J. MEBBERSON

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SAMPLE DESCRIPTIONS

MARLIN A-24

DEPTH	%	DESCRIPTION
8680 - 8690	20	Sandstone, as before.
	50	Siltstone, as above.
	20	Shale, as above.
	10	Coal, as above.
8690 - 8700	Trace	Sandstone, coarse, to very coarse, angular.
	50	Siltstone, as above.
	40	Shale as above.
	10	Coal, as above.
8700 - 8710	Trace	Sandstone, as above.
	80	Siltstone, as above.
	10	Shale, as above.
	10	Coal, as above.
8710 - 8720	10	Sandstone, as above.
	30	Siltstone, as above.
	30	Shale, as above.
	30	Coal, as above.
8720 - 8730	40	Siltstone, as above.
	40	Shale, as above.
	20	Coal, as above.
8730 - 8740	100	Mud, coarse grained, sandstone, loose grains, subrounded to subangular.
	RIH Cut	Core 1 8739 - 8770 100% Recovery sandstone.
		Core 2 8770 - 8801 100% Recovery sandstone
		Core 3 8801 - 8836 100% Recovery sandstone
8836 - 8840	60	Sandstone, as above, white-clear, generally medium to occasionally coarse, well sorted, loose, well rounded, no fluorescence.
	40	Coal and Shale, probably cavings.
8840 - 8850	100	Sandstone, as above. fine to medium grained, generally medium.
	Trace	Coal, as above.
8850 - 8860	100	Sandstone, as above.
	Trace	Coal and Shale, as above.
8860 - 8870	60	Sandstone, as above.
	30	Shale, silty, brown, non calcareous, slightly carbonaceous.
	10	Coal, as above.
8870 - 8880	80	Sandstone, as above.
	20	Shale and Coal, as above.
8880 - 8890	60	Sandstone, as above.
	40	Siltstone, as above, trace brown mineral fluorescence, firm.
8890 - 8900	100	Coal, black, brittle.
8900 - 8910	100	Siltstone, as above.
	Trace	Carbonaceous Shale and Coal, as above.
	Trace	Sandstone, as above.
8910 - 8920	90	Coal, as above.
	10	Siltstone, as above

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Sample Descriptions cont'd

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MARLIN A-24

DEPTH	%	DESCRIPTION
8920 - 8930	60	Siltstone, as above.
	20	Sandstone, as above, no show.
	20	Carbonaceous Shale,as above.
8930 - 8940	50	Siltstone, as above.
	30	Sandstone, generally as above, some very fine grained, silty, carbonaceous.
	20	Carbonaceous Shale,as above
8940 - 8950	90	Siltstone, brown, firm, as above.
	10	Carbonaceous Shale, as above.
8950 - 8960	90	Siltstone, as above.
	10	Shale, as above.
8960 - 8970	100	Siltstone, as above.
8970 - 8980	100	Siltstone, as above.
	Trace	Sandstone, silty as above and fine grained as above.
8980 - 8990	40	Sandstone, very fine silty, white, friable, hard, carbonaceous, subangular to rounded, very faint dull brown fluorescence in some sand, no cut, possible mineral fluorescence in cement.
	40	Siltstone, as above.
	20	Shale, as above.
8990 - 9000	80	Sandstone, as above, dull brown, mineral fluorescence, possibly dolomitic cement.?
	20	Siltstone, as above, carbonaceous.
9000 - 9010	70	Siltstone,as above.
	10	Coal, black, dull-shiny, brittle
	20	Sandstone, as above.
9010 - 9020	90	Siltstone, as above.
	10	Shale and Coal.
9020 - 9030	80	Siltstone, as above.
	20	Sandstone, as above.
9030 - 9040	100	Coal, black, brittle.
9040 - 9050	40	Coal, as above.
	60	Siltstone, as above.
	Trace	Sandstone and Shale, as above.
9050 - 9070	20	Coal, as above.
	40	Sandstone, as above.
	40	Siltstone , as above.
9070 - 9080	70	Coal, as above.
	20	Siltstone, as above.
	10	Sandstone, as above.
9080 - 9090	70	Siltstone, as above.
	20	Sandstone, as above.
	10	Coal, as above.
9090 - 9100	100	Siltstone, as above.
	Trace	Sandstone and Coal, as above.
9100 - 9110	100	Siltstone, as above.
	Trace	Coal, as above.
9110 - 9120	100	Coal, black, brittle.
9120 - 9130	100	Coal, as above.

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SAMPLE DESCRIPTION cont'd

MARLIN A-24

DEPTH	%	DESCRIPTION
9130 - 9140	100	Coal, as above.
9140 - 9150	40	Siltstone, as above.
	40	Sandstone, as above.
	20	Coal, as above.
9150 - 9160	50	Sandstone, as above.
	50	Siltstone, as above.
	Trace	Coal, as above.
9160 - 9170	50	Siltstone, as above.
	30	Sandstone, as above.
	20	Coal, as above.
9170 - 9180	70	Coal, as above.
	30	Siltstone, as above.
9180 - 9190	50	Coal, as above.
	50	Siltstone, as above.
	Trace	Sandstone, as abov
9190 - 9200	70	Siltstone, as above.
	30	Coal, as above.
	Trace	Sandstone, as above
9200 - 9210	100	Siltstone, as above.
9210 - 9220	60	Sandstone, medium,generally medium, subangular, fractured, well sorted, clear, loose, trace dull gold fluorescence, no cut.
	40	Siltstone, as above.
9220 - 9230	80	Sandstone, generally as above, some spotty,fluorescences, gold in scattered grains, no cut. May be dead oil? residue. Grains with fluorescence are slightly brown stained.
	20	Siltstone, as above.
9230 - 9240	70	Sandstone, very fine to medium (fine, well cemented), loose, subangular to angular, moderate staining, occasional spotty, gold fluorescence, no cut as above.
	30	Siltstone, as above.
9240 - 9250	30	Sandstone, very fine grained, occasional medium graines, very rare fluorescence, as above.
	50	Siltstone, as above.
	20	Coal, as above.
9250 - 9260	20	Coal, as above.
	60	Siltstone, as above.
	20	Sandstone, as above, no shows.
9260 - 9270	70	Siltstone, as above.
	20	Sandstone, as above.
	10	Coal, as above.
9270 - 9280	100	Siltstone, as above.
	Trace	Coal, as above.
9280 - 9290	100	Siltstone, as above.
	Trace	Coal, as above.
9290 - 9300	100	Coal, black, brittle, shiny.
9300 - 9310	100	Coal, as above.
9310 - 9320	50	Coal, as above.
	50	Siltstone, as above.
	Trace	Sandstone, as above.

Sample Descriptions cont'd

J. Mebberson
5/11 June, 1973

MARLIN A-24

DEPTH	%	DESCRIPTION
9320 - 9330	100	Coal, as above.
9330 - 9340	80	Coal, as above.
	20	Siltstone, brown, firm, as above, trace sandstone as above.
9340 - 9350	70	Coal, as above.
	30	Sandstone, very fine grained, as above, no show.
9350 - 9360	40	Coal, as above.
	50	Sandstone, very fine grained to medium grained, generally medium, angular, clear to white, moderate staining.
	10	Siltstone, brown, as above.
9360 - 9370	30	Coal, as above.
	60	Sandstone, as above, becoming predominantly fine grained.
	10	Siltstone, as above.
9370 - 9380	70	Sandstone, as above, occasional spotty gold fluorescence, no cut.
	30	Coal, as above.
	Trace	Siltstone, as above.
9380 - 9390	50	Sandstone, as above.
	30	Siltstone, as above.
	20	Coal, as above.
9390 - 9440	80	Siltstone, as above.
	20	Sandstone, as above.
9440 - 9450	100	Coal, black, brittle, shiny.
9450 - 9480	100	Coal, as above
9480 - 9500	100	Coal, as above.
9500 - 9510	70	Coal, as above.
	20	Sandstone, very fine to medium grained, spotty gold fluorescence, no cut.
	10	Siltstone, as above.
9510 - 9520	70	Coal, as above.
	30	Sandstone, as above,abundant dull, gold fluorescence, no cut??
9520 - 9530	50	Coal, as above.
	40	Sandstone, as above.
	10	Siltstone, as above.
9530 - 9540	100	Coal, as above.
9540 - 9550	60	Coal, as above.
	30	Siltstone, as above.
	10	Sandstone, as above, scattered gold fluorescence, no cut.
9550 - 9560	60	Coal, as above.
	30	Sandstone, as above, scattered gold fluorescence, no cut.
	10	Siltstone, as above.
9560 - 9570	50	Coal, as above.
	20	Sandstone, loose, medium-coarse, subrounded, clear to white, no show.
	10	Sandstone, very fine grained, cemented, dull straw fluorescence, no cut (interstitial?)
	20	Siltstone, as above.
9570 - 9590	40	Coal, as above.
	50	Sandstone, as above mixture of 2 types.
	10	Siltstone, as above.

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Sample Descriptions cont'd

MARLIN A-24

DEPTH	%	DESCRIPTION
9590 - 9600	80	Sandstone, clean, subangular to well rounded, well sorted, medium to coarse grained, white - clear, no show.
	20	Coal, as above.
9600 - 9610	100	Coal, as above, approximately 40% very carbonaceous shale.
9610 - 9620	40	Carbonaceous Shale, black grey, fissile.
	60	Coal, as above.
9620 - 9630	20	Coal, as above.
	20	Siltstone, brown, slightly sandy, firm.
	60	Carbonaceous Shale, as above.
9630 - 9640	100	Coal, as above.
9640 - 9650	100	Coal, shaley in part.
9650 - 9660	70	Coal, as above.
	30	Carbonaceous Shale, as above.
9660 - 9670	90	Siltstone, brown-grey, carbonaceous, firm.
	10	Carbonaceous Shale, as above.
9670 - 9680	100	Siltstone, as above.
9680 - 9690	50	Coal, as above.
	50	Siltstone, as above.
9690 - 9700	70	Siltstone, as above.
	30	Carbonaceous Shale, as above.
	Trace	Sandstone, as above.
9700 - 9710	30	Coal, as above.
	50	Siltstone, as above.
	20	Sandstone, as above,
9710 - 9720	50	Carbonaceous shale, as above, some coal.
	30	Siltstone, as above.
	20	Sandstone, as above.
9720 - 9730	60	Carbonaceous Shale, as above.
	40	Coal, as above.
9730 - 9740	10	Coal, as above.
	30	Siltstone, as above.
	60	Carbonaceous Shale, as above.
9740 - 9750	30	Coal, as above.
	40	Siltstone, as above.
	30	Carbonaceous Shale, as above.
	Trace	Sandstone, generally fine to medium, cemented, no shows.
9750 - 9760	30	Sandstone as above, no shows.
	70	Siltstone, as above.
	Trace	Coal and Carbonaceous Shale, as above.
9760 - 9770	40	Sandstone, as above.
	30	Siltstone, as above.
	30	Coal, as above.
9770 - 9780	10	Sandstone, as above.
	20	Coal, as above.
	70	Siltstone, as above.
9780 - 9790	90	Siltstone, as above, brown, firm.
	10	Coal, as above (probably cavings)

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J. Mebberson
5/11 June

Sample Descriptions cont'd

MARLIN A-24

DEPTH	%	DESCRIPTION
9790 - 9800	100	Siltstone, as above.
9800 - 9810	60	Sandstone, subangular to rounded, clear, loose, medium, occasionally coarse, no show.
	40	Carbonaceous Shale and Coal.
9810 - 9820	100	Sandstone, coarse - medium grained, generally coarse, white to grey subangular to subrounded, loose, well sorted, no shows.
9820 - 9860	100	Sandstone, as above. No show.
9860 - 9870	30	Coal, black, dull.
	70	Sandstone, as above.
9870 - 9890	100	Coal, as above.
9890 - 9900	50	Coal, as above.
	50	Carbonaceous Shale, grey, slightly silty, fissile.
9900 - 9910	100	Carbonaceous Shale, as above, silty.
9910 - 9920	30	Coal, as above.
	70	Carbonaceous Shale, silty.
9920 - 9930	10	Coal, as above.
	30	Siltstone, as above.
	60	Carbonaceous Shale, as above.
9930 - 9940	70	Sandstone, white-clear, angular, medium - occasionally coarse.
	30	Carbonaceous Shale, as above.
9940 - 9950	90	Sandstone, as above.
	10	Carbonaceous Shale, as above.
9950 - 9960	90	Sandstone, as above.
	10	Coal, as above.
9960 - 9970	100	Sandstone, as above, no show.
9970 - 9980	100	Sandstone, as above.
9980 - 9990	90	Sandstone, as above.
	10	Carbonaceous Shale, as above
9900 - 10,000	90	Sandstone, as above.
	10	Coal and Carbonaceous Shale, as above.
10,000-10,010	100	Coal, as above.
10,010-10,020	100	Coal, as above.
10,020-10,030	100	Coal, as above.
10,030-10,040	30	Coal, as above.
	70	Siltstone, as above.
10,040-10,050	100	Siltstone, as above.
10,050-10,060	80	Sandstone, white, medium-coarse grained, well sorted, loose, angular no show.
	20	Siltstone, as above.
10,060-10,070	100	Sandstone, as above, trace pyrite.

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Sample Descriptions cont'd

J. Mebberson
5/11 June, 1973

MARLIN A-24

DEPTH	%	DESCRIPTIONS
10,070-10,080	100	Sandstone, as above.
10,080-10,120	100	Sandstone, as above, becoming more well rounded, no shows.
10,120-10,130	80	Sandstone, as above.
	20	Coal, as above.
10,130-10,140	40	Sandstone, as above.
	20	Siltstone, as above.
	40	Coal, as above, black, dull-shiny, brittle, occasionally shaley,
10,140-10,150	50	Carbonaceous Shale and trace Coal.
	40	Sandstone, as above.
	10	Siltstone, as above.
10,150-10,160	70	Carbonaceous Shale, as above.
	30	Siltstone, as above.
	Trace	Sandstone, as above.
10,160-10,170	100	Carbonaceous Shale and trace Coal, as above.
10,170-10,180	100	Coal, as above.
10,180-10,190	50	Coal, as above
	50	Carbonaceous Shale, as above.
10,190-1,200	40	Carbonaceous Shale and Coal.
	30	Siltstone, as above.
	30	Sandstone, as above, no shows.
10,200-10,210		Mostly cavings.
	30	Coal, as above.
	70	Siltstone, trace sandstone, as above.
10,210-10,220	100	Sandstone, subangular-rounded, white, medium to coarse, well sorted, loose, no shows.
10,220-10,230	100	Sandstone, as above.
10,230-10,240	80	Sandstone, as above.
	20	Coal, as above.
10,240-10,250	80	Sandstone, becoming more coarse, no show.
	20	Carbonaceous Shale, and Coal, as above.

J. Mebberson
Bruce McKay

June 12/15, 1973

SAMPLE DESCRIPTIONS

MARLIN A-24

DEPTH	%	DESCRIPTION
10250-60	70	Sandstone, coarse, moderately sorted, subrounded to well rounded, with No show.
	30	Carbonaceous Shal & Coal, as above.
10260-70	60	Sandstone, as above.
	30	Siltstone, clayey, grey-white, soft.
	10	Carbonaceous Shale and Coal, as above.
10270-80	40	Sandstone, as above, coarse, white, rounded, loose, no show.
	20	Sandstone, very fine grained, silty, carbonaceous, friable, white, no show.
	20	Siltstone, brown, firm, occasionally clayey.
	10	Carbonaceous Shale and Coal, as above.
10280-90	80	Coal, black, shiny, brittle.
	10	Siltstone, brown firm.
	10	Sandstone, as above.
10290-10300	100	Coal, as above.
10300-10	30	Coal, as above.
	70	Siltstone, brown - light brown, slightly sandy, carbonaceous, firm.
	Trace	Sandstone, no show
10310-20	100	Coal, as above.
10320-30	30	Coal, as above.
	70	Siltstone, as above.
10330-40	10	Sandstone, very fine grained, silty, friable, white, slightly carbonaceous, no show.
	90	Siltstone, as above.
10340-50	10	Sandstone, as above.
	40	Coal, as above.
	50	Siltstone, as above.
10350-60	30	Coal, black, brittle.
	30	Siltstone, grey brown - brown, slightly shaley, in part. Carbonaceous, slightly soft - moderately hard.
	40	Sandstone, very fine to fine, occasionally medium, white, mostly friable - slightly consolidated, white clay matrix, no fluorescence.
10360-70	Trace	Coal
	30	Siltstone, shaley.
	70	Sandstone, fine friable - moderately friable, with common medium to coarse loose quartz grains, white clay matrix, fair porosity and permeability, no show. Trace pyrite.
10370-80	10	Siltstone, as above.
	90	Sandstone, micaceous, as above.
10380-90	100	Coal, trace sandstone, siltstone.
10390-10410	60	Sandstone, fine to very coarse, friable - unconsolidated, subangular - subrounded, pyritic, light brown - white, dolomitic, minor fluorescence.
	40	Siltstone, carbonaceous.
10410-20	90%	Sandstone, fine to coarse, angular to subrounded, unconsolidated

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Bruce McKay
June 12/15, 1973

SAMPLE DESCRIPTIONS cont'd

MARLIN A-24

DEPTH	%	DESCRIPTION
10410-20 cont'd		to moderately hard, cemented in part, trace dolomite.
	10	Siltstone, as above.
10420-30	20	Siltstone, dark brown-brown, shaly in part, very sandy in part.
	80	Sandstone, silt - medium, occasionally coarse, friable, cemented, occasionally loose, trace dolomite, mineral fluorescence. Scattered spotty, yellow, pin point fluorescence with minor milky white cut.
10430-40	100	Sandstone, fine to coarse, subrounded, fair to good sorting, unconsolidated, weakly cemented, pyritic. Spotty fluorescence in grain fractures, pale milky, yellow cut, yellowish fluorescence sheen in mud.
10440-50	80	Sandstone, as above, scattered fluorescence, weak cut.
	20	Siltstone, coaly in part.
		Circulated at 10,462'.
10450-60	75	Sandstone, medium to coarse, subangular to subrounded, fair to good sorting, bright pinpoint yellow fluorescence (more than previously), very faint weak milky white cut (very poor).
	25	Siltstone, as above.
		Circulate B.U. at 10,467'.
10460-70	10	Siltstone, as above.
	90	Sandstone, medium to coarse with minor very fine cemented aggregates tending silty, subangular to subrounded, fair to good sorting, clean, friable - unconsolidated, pyritic, pinpoint yellow fluorescence in fractures, slow crush cut.
		Survey, POOH to cut Core #4.
		Core #4, 10,467 - 10,505' Cut 38' Recovered 38' (100%)
		RIH with J-33: BOB drilling 2130 hours, June 13, 1973.
10505-10520	50	Siltstone, brown to dark grey brown, carbonaceous, slightly pyritic, non calcareous, shaly in part.
	50	Coal, black, brittle, shiny.
	Trace	Sandstone, fine, cemented with some loose grains.
10520-40	100	Coal, bleeding gas.
10540-50	10	Coal,
	90	Siltstone.
10550-60	60	Sandstone, fine to medium, moderately well sorted, subangular, pyritic, mineral fluorescence.
	30	Siltstone.
	10	Coal.
10560-70	70	Sandstone, fine to medium, subangular, cemented, slightly pyritic, micaceous, trace yellow fluorescence, no cut, probably mineral.
	30	Siltstone and Coal.
10570-80	60	Sandstone, yellow fluorescence, no cut.
	40	Siltstone.
10580-90	80	Sandstone, unconsolidated - cemented, fluorescence in white cement(?) material.
	10	Siltstone
	10	Coal

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Bruce McKay

SAMPLE DESCRIPTIONS cont'd

June 12/15, 1973

MARLIN A-24

DEPTH	%	DESCRIPTION
		GRAB SAMPLE 10,597 100% Coal.
10590-10610	70	Sandstone, fine to medium, angular to subrounded, unconsolidated, moderate sorting, trace yellow fluorescence, no cut.
	20	Siltstone.
	10	Coal.
10610-20	70	Sandstone, very fine to medium, cemented aggregates, occasional green mineral, tight, yellow fluorescence in some grains, cut nil - weak.
	30	Siltstone & Coal.
10620-30	100	Sandstone, clear to white, fine to medium, subangular, unconsolidated with very fine - fine cemented aggregates, trace yellow fluorescence, moderately bright, mostly in white grains or portions of aggregates, occasional faint crush cut.
10630-40	100	Sandstone, silt to medium, cemented aggregates becoming dirty, not as much fluorescence.
10640-50	80	Sandstone.
	10	Siltstone
	10	Coal
		GRAB SAMPLE 10,654 100% Coal
10650-60	90	Coal, trace streaming cut from rare coal grains.
	10	Sandstone
10660-70	80	Coal, shaley
	10	Sandstone, pyritic.
	10	Siltstone.
10670-80	70	Coal, shaley.
	20	Sandstone
	10	Siltstone
10680-90	100	Sandstone, fine to medium, cemented, pyrite, slightly micaceous rare fluorescence.
10690-10720	100	Sandstone, fine to medium, subangular, very clean, no fluorescence.
10720-40	100	Sandstone, fine to medium, angular to subangular, appears fractured clean, probably hard,cemented, micaceous, rare fluorescence.
10740-50	100	Coal
10750-60	90	Coal
	10	Sandstone
10760-80	70	Sandstone
	30	Coal, silty and Siltstone, carbonaceous
10780-90	80	Sandstone
	10	Coal
	10	Siltstone
10790-10800	70	Sandstone
	20	Coal
	10	Siltstone
10800-10	80	Sandstone
	10	Coal
	10	Siltstone

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SAMPLE DESCRIPTION cont'd

MARLIN A-24

DEPTH	%	DESCRIPTION
10810-20	60	Sandstone,
	30	Siltstone, brown, sandy
	10	Coal.
10820-30	20	Sandstone, very fine to medium, subangular to angular, cemented, firm, slightly friable, no fluorescence, pyritic,
	80	Siltstone
10830-40	60	Sandstone
	40	Siltstone, trace Coal
10840-60	90	Sandstone, pyritic.
	10	Siltstone, trace Coal
10860-70	70	Sandstone, very fine to medium, becoming siltier, more clay matrix, pyritic.
	30	Siltstone, slightly sandy, very pyritic.
10870-80	60	Sandstone, silty - fine, occasional loose medium quartz, argillaceous, firm - hard, tight, pyritic.
	40	Siltstone, brown, pyritic.
10880-90	50	Sandstone, clay choked, pyritic, interbedded.
	50	Siltstone.
10890-10900	70	Siltstone, brown, pyritic.
	20	Sandstone, silty - fine, occasional loose medium clay choked, argillaceous, pyritic, no fluorescence, tight.
	10	Coal
10900-10910	80	Siltstone, shaley, micaceous.
	20	Sandstone, clay choked, silty, argillaceous.
10910-20	80	Coal
	20	Siltstone
10920-30	70	Siltstone, firm to moderately hard, micaceous, pyritic, shaley.
	20	Coal
	10	Sandstone
10930-40	70	Siltstone, with minor coal
	30	Sandstone, silty - fine, clay choked, tight.
		Very little sample coming over shaker
10940-50	90	Siltstone, brown, shaley in part and light grey brown, trending sandy, carbonaceous, interbedded.
	10	Sandstone, very silty, argillaceous.
10950-60	60	Sandstone, silty to fine, clay choked, firm to moderately hard, tight, white to light brown clay matrix, pyritic, micaceous.
	40	Siltstone, brown, shaley in part, carbonaceous, pyritic.
10960-70	20	Coal
	20	Siltstone
	60	Sandstone, clay choked.
		10971 HW gas units 240 units (10' Sandstone) 10988 Pick up; check for flow Circulate bottoms up
10970-80	80	Sandstone, clay choked, tight, micaceous, pyritic interbedded.
	20	Siltstone, carbonaceous, micaceous, interbedded.

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Bruce McKay
June 12/15, 1973

SAMPLE DESCRIPTION cont'd

MARLIN A-24

DEPTH	%	DESCRIPTION
10980-88	80 20	Sandstone, as above. Siltstone, as above.
		19083 HW gas units 95 units (1' sandstone)
		After Bottoms up HW 30 units at least 35 mins. up to 40 units for 20 mins.
		Raised mudweight to 10.3 then 10.6 #/gal.
		Gas dropped back to 15 units
		Made wiper trip (20 stds) Trip Gas 110 units Raised MW to 10.9#/gal. Made Wiper trip (10 stds) Trip Gas 35 units
		TOTAL DEPTH 10,988'.

APPENDIX 4

CORE DESCRIPTION AND ANALYSES
MARLIN A-24
VICTORIA, AUSTRALIA

October, 1973

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 1

WELL: Marlin A-24

Interval Cored 8739' – 8770' **ft.,** **Cut** 31 **ft.,** **Recovered** 31 **ft.,** (100 %) **Fm.** Latrobe.

Bit Type C-20, **Bit Size** 8 15/32" **in.,** **Desc. by** A.J. Mebberson **Date** 5-6-73

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0 5 10 8739 40 50 60 8770			8739-8770' (31')	SANDSTONE
				Quartzose, grey to white, fine to medium grained, gen. medium grained, subangular to rounded, mod. consolidated to friable, well sorted, micaceous, occ. calcite grains, carbonaceous streaks, shale streaks up to 2mm thick, gen. sand is massive to faintly bedded. Grain size and cleanness of sand increases downwards, Occ. abundant clay cement, good visible porosity. Strong gaseous odour throut core, no cut or fluorescence.

REMARKS:

← Full core samples for core analysis (EPRCo)

← Overburden core analysis sample.

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 2

WELL: Marlin A-24

Interval Cored 8770-8801 ft., Cut 31 ft., Recovered 31 ft., (100 %) Fm. Latrobe

Bit Type C-20, Bit Size 8 15/32" in., Desc. by A.J. McEberson Date 5-6-73

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0 5 10 15 8770			8770-8801' (31')	SANDSTONE:
				Quartzose, grey brown to white, medium to coarse grained, subangular to well rounded, consolidated to occ friable, moderately well sorted, micaceous, several very thin coal streaks, rare shale streak, clay cement generally in medium grained sections, Coarse beds relatively clean. No indications of graded bedding. Good visible porosity. Strong gaseous odour throughout, no cut or fluorescence.
80				
90				
8800				
9				

REMARKS:

← Full core samples for core analysis (EPRCo)

← Overburden core analysis sample

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 3

WELL: Marlin A-24

Interval Cored 8801-8836 ft., Cut 35 ft., Recovered 36 ft., (100 %) Fm. Latrobe

Bit Type C-20, Bit Size 8 15/32 in., Desc. by A.J. Mobberson Date 6/6/73

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0 5 10 8801			8801'-8836' (35')	SANDSTONE: Quartzose, brown grey to white, vf-coarse grained, generally fine to medium grained, subangular to well rounded, consolidated, moderately sorted, micaceous, clay and silica matrix, Trace of dolomite, abundant thin coal bands, occasional carbonaceous shale streaks. Grainsize is vaguely sorted into beds of variable thickness. Very hard section 8821'-25' due to silica + clay cement, dtld the coarse beds are moderately friable. Strong gaseous odour throughout. Abundant plant remains. Fair porosity to poor in hard zones.
10				
20				
30				
8836				

REMARKS:

← Full core sample for coreanalysis (EPRCo)

← Overburden core analysis sample.

ESSO STANDARD OIL (AUSTRALIA) LTD.

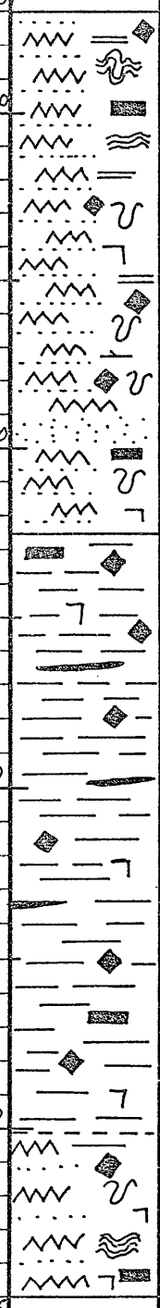
CORE DESCRIPTION

Core No. 4

WELL: MARLIN A-24

Interval Cored 10467-10505 ft., Cut 38 ft., Recovered 38 ft., (100 %) Fm. Latrobe

Bit Type Christensen C-20, Bit Size 8 15/32 in., Desc. by Bruce McKay Date June 13, 1973

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0 5 10 15 10467			10467 - 82½	15½' INTERBEDDED SILTSTONE AND SANDSTONE
				Very thinly bedded, maximum individual sandstone unit 6" thick between 10479 and 10480, generally lenticular sandstone, wavy, discontinuous bedding, burrowed, some contorted bedding.
				Siltstone; brown to grey, shaly, carbonaceous, very micaceous
				Sandstone; light grey, silt-fine, well sorted, hard, subangular-subrounded, white clay matrix, slightly dolomitic (mineral fluorescence) micaceous, slightly pyritic, poor porosity and permeability, no fluorescence except for gold mineral fluorescence, no cut
			10482½ - 10500	17½' SHALE with thin coal streaks, dark grey, massive, hard, pyritic, carbonaceous, micaceous, bedding plane cleavage.
			10500 - 10505	5' INTERBEDDED SILTSTONE AND SANDSTONE
				Very thinly bedded as above, not as sandy as above, no show.
				Core bleeding slightly from coaly streaks. Apparent steep dip due to deviated hole.

10470 10480 10490 10500 10505

REMARKS:

CORE#1

EXPLORATION LOGGING OF AUSTRALIA, INC.

A Geological-Engineering Service

PERTH ADDRESS: 69 GREAT EASTERN HIGHWAY, VICTORIA PARK, WESTERN AUSTRALIA
PHONE: 61 4437 CABLE: EXLOGG PERTH

CORE ANALYSIS REPORT

COMPANY ESSO/BHP
WELL MARLIN A-24
LOCATION/FIELD GIPPSLAND BASIN/MARLIN
COUNTY OFFSHORE STATE VICTORIA
COUNTRY AUSTRALIA
REMARKS SANDSTONE, FINE TO MEDIUM, SUBANGULAR TO ROUNDED, MICACEOUS, ARGILLACEOUS, CARBONACEOUS IN PART, FRIABLE. TRACE PINK MINERAL FLUORESCENCE. GAS ODOUR ON BREAKING.

DATE 6/6/73
DEPTH 8739FT TO 8770FT
GEO-ENGINEER MICHELMORE

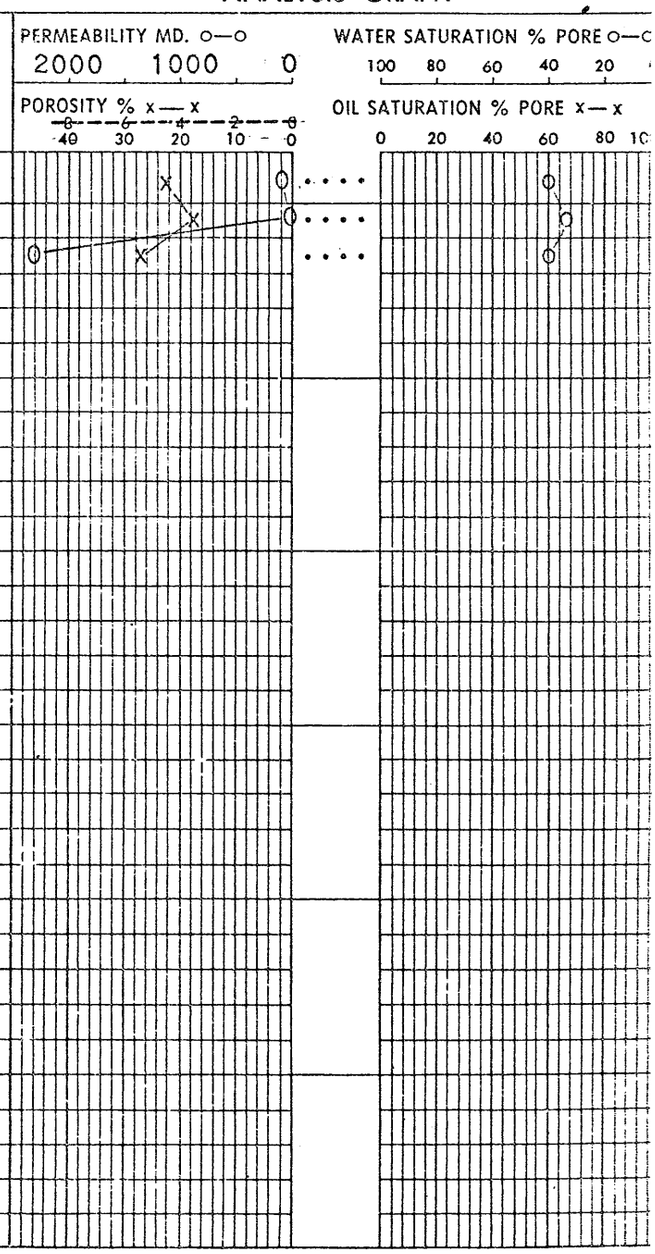
SAND
SILTY SAND
SILTST.
SHALE
LIME
CONGL.

TABULAR DATA

SAMPLE NUMBER	DEPTH FEET	AIR PERM. MD.	POROSITY PERCENT	FLUID SATURATION % PORE VOLUME OIL	FLUID SATURATION % PORE VOLUME WATER	GRAVITY OIL °API	DRY BULK DENSITY	REMARKS
1	8740	56	22·5	0	40		2·16	
2	8755	25	17·4	TR	34		2·30	
3	8770	2370	27·8	TR	39		2·01	

NOTE: WATER RECOVERED FROM SATURATION DETERMINATIONS HAD A YELLOW FLUORESCENCE.

ANALYSIS GRAPH



CORE#2

EXPLORATION LOGGING OF AUSTRALIA, INC.

A Geological-Engineering Service

PERTH ADDRESS: 69 GREAT EASTERN HIGHWAY. VICTORIA PARK. WESTERN AUSTRALIA
PHONE: 61 4437 CABLE: EXLOGG PERTH

CORE ANALYSIS REPORT

COMPANY ESSO/BHP
WELL MARLIN A-24
LOCATION/FIELD GIPPSLAND BASIN/MARLIN
COUNTY OFFSHORE STATE VICTORIA
COUNTRY AUSTRALIA
REMARKS RECD 100% SANDSTONE, WHT-LT GRY, F-MED, SUBANG-SUBRNDD, FRI-MOD HD, W SRTD, ARGILLAC, MICAC, OCC CARB STRKS.

DATE 6TH JUNE, 1973
DEPTH 8770 TO 8801FT
GEO-ENGINEER ASHTON

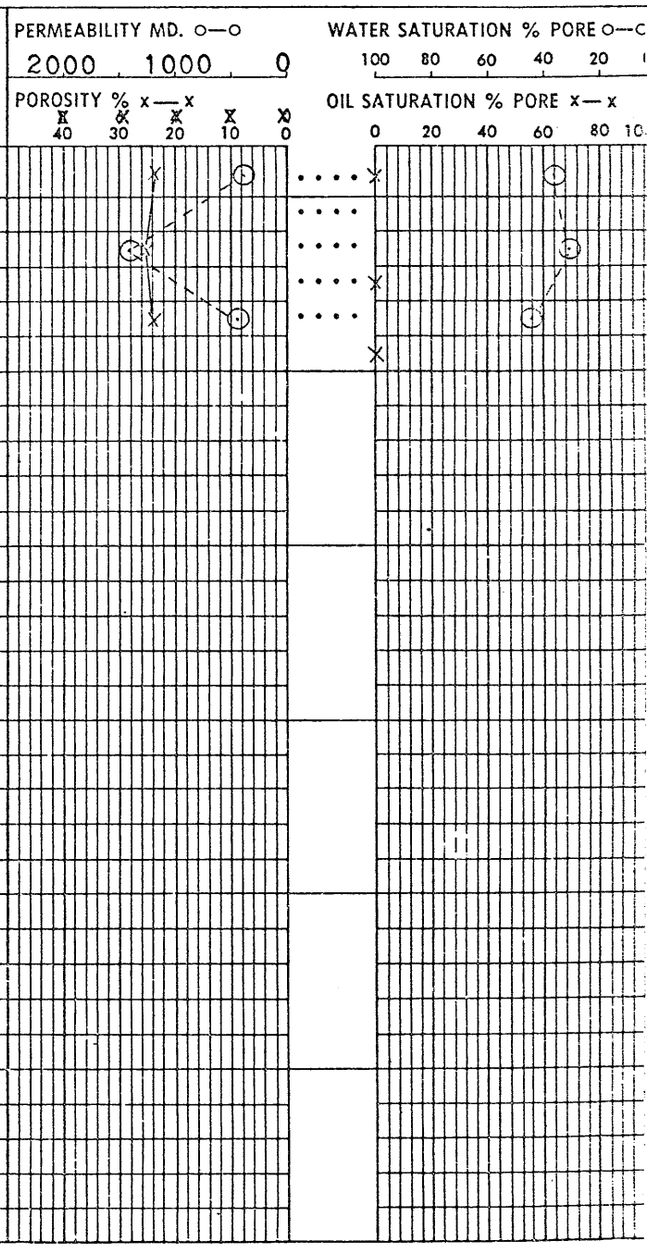
SAND
SILTY SAND
SILTST.
SHALE
LIME
CONGL.

TABULAR DATA

SAMPLE NUMBER	DEPTH FEET	AIR PERM. MD.	POROSITY PERCENT	FLUID SATURATION % PORE VOLUME OIL	FLUID SATURATION % PORE VOLUME WATER	GRAVITY OIL °API	DRY BULK DENSITY	REMARKS
1	8771	392	23·4	0	36·0		2·08	SDST
2	8786	1402	26·7	0	30·8		1·97	SDST
3	8801	427	23·4	TR	44·0		2·06	SDST

TRACE OIL FROM SATURATION ANALYSIS AT 8801FT, BLUE WHITE FLUORESCENCE.

ANALYSIS GRAPH



CORE #3

EXPLORATION LOGGING OF AUSTRALIA, INC.
A Geological-Engineering Service

PERTH ADDRESS: 69 GREAT EASTERN HIGHWAY, VICTORIA PARK, WESTERN AUSTRALIA
PHONE: 61 4437 CABLE: EXLOGG PERTH

CORE ANALYSIS REPORT

COMPANY ESSO/BHP
WELL MARLIN A-24
LOCATION/FIELD GIPPSLAND BASIN/MARLIN
COUNTY OFFSHORE STATE VICTORIA
COUNTRY AUSTRALIA

DATE 7TH JUNE, 1973
DEPTH 8801 TO 8836FT
GEO-ENGINEER MICHELMORE

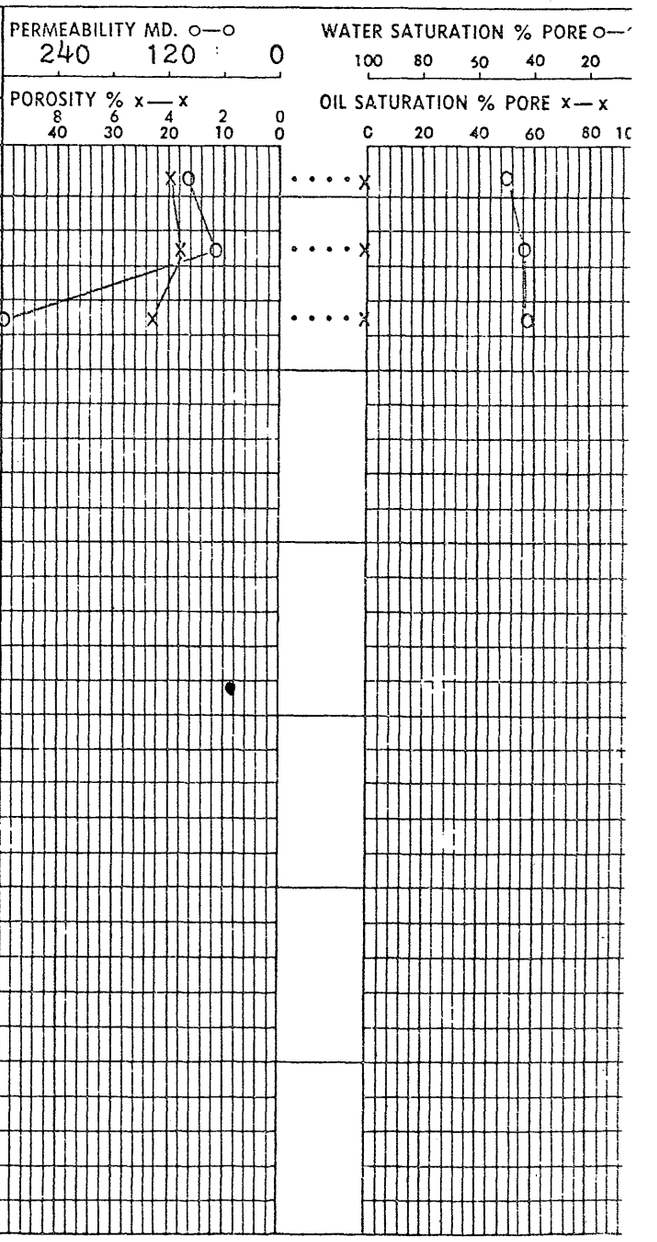
REMARKS RECOVERED 100% SANDSTONE, WHITE TO LIGHT GREY, FINE TO COARSE, ANGULAR TO SUBROUNDED, MOD FRIABLE TO HARD, SILICA CEMENT IN PT, CLAY MATRIX. HYDROCARBON ODOUR. COMMON THIN COAL LAMELLAE.

SAND · SILTY SAND · SILTST. · SHALE · LIME · CONGL.

TABULAR DATA

SAMPLE NUMBER	DEPTH FEET	AIR PERM. MD.	POROSITY PERCENT	FLUID SATURATION % PORE VOLUME OIL	FLUID SATURATION % PORE VOLUME WATER	GRAVITY OIL °API	DRY BULK ~~total~~ ~~et~~ ~~c/c~~ DENSITY	REMARKS
1	8802	95	20·1	0	50		2·09	SDST
2	8820	69	17·2	0	56		2·18	SDST
3	8836	302	22·2	0	41		2·08	SDST

ANALYSIS GRAPH



CORE#4

EXPLORATION LOGGING OF AUSTRALIA, INC.

A Geological-Engineering Service

PERTH ADDRESS: 69 GREAT EASTERN HIGHWAY, VICTORIA PARK, WESTERN AUSTRALIA
PHONE: 61 4437 CABLE: EXLOGG PERTH

CORE ANALYSIS REPORT

COMPANY ESSO/BHP
WELL MARLIN A-24
LOCATION/FIELD GIPPSLAND BASIN/MARLIN
COUNTY OFFSHORE STATE VICTORIA
COUNTRY AUSTRALIA

DATE 13TH JUNE, 1973.
DEPTH 10,467FT TO 10,505FT
GEO-ENGINEER ASHTON

REMARKS RECD 100% INTBDD SHALE/SLST/SDST.
10467-82½ SLTST, M GRY, MOD HD, MIC, LAMINATED W/ SDST, WH-LT GRY, VF-F, SUBANG-SUBRND, CLY MTX, SL DOL, LOC V PYR, CARB, MOD HD, 10482½-500 SHALE, DK GRY, HD, MIC, SLTY, CARB, 10500-05 INTBDD SDST/SLST A/A.

SAND · SILTY SAND · SILTST. · SHALE · LIME · CONGL.

TABULAR DATA

SAMPLE NUMBER	DEPTH FEET	AIR PERM. MD.	POROSITY PERCENT	FLUID SATURATION % PORE VOLUME OIL	FLUID SATURATION % PORE VOLUME WATER	GRAVITY OIL °API	DRY BULK DENSITY	REMARKS
1	10,480	0	11.6	0	90.5		2.58	SDST PYR & CARB.
2	10,480	0	7.0				2.30	SDST

ANALYSIS GRAPH

PERMEABILITY MD. o—o
POROSITY % x—x (8 6 4 2 0 / 40 30 20 10 0)
WATER SATURATION % PORE o—o (100 80 60 40 20)
OIL SATURATION % PORE x—x (0 20 40 60 80 100)

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. MARLIN A-24

DATE ANALYSIS COMPLETED AUGUST 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 tetrachloretylene
	From	To			V	H	Dry Bulk	Apparent Grain	Water	Oil				
3	8825'	8825'10"	Quartzite	3.0	N.D.	<0.1	2.69	2.77	22	Nil	N.D.	Nil	Spotted dull yellow	Nil
3	8833'2"	8834'	Sst; f.gr. carb lam	16.8	1.9	34	2.23	2.68	12	0.26	N.D.	trace	even yellow	Nil
4	10467'	10468'	Slst; carb shly	7.2	<0.1	<0.1	2.51	2.70	32	2.0	N.D.	trace	spotted yellow	Nil
4	10473'	10473'6"	Slst; aren, shly carb	9.2	N.D.	<0.1	2.46	2.72	27	1.7	N.D.	trace	Nil	Trace
4	10484'6"	10485'	Sh	7.1	0.2	0.11	2.33	2.51	24	2.0	N.D.	trace	Nil	Nil
4	10493'8"	10494'	Sh; pyr	6.2	N.D.	<0.1	2.66	2.83	17	1.2	N.D.	trace	Nil	Nil
4	10504'0"	10504'4"	Slst; shly	10.0	N.D.	<0.1	2.48	2.75	22	1.0	N.D.	fair	Nil	Nil

Remarks: -

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

MARLIN. 024 w/2.

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. MARLIN A-24

DATE ANALYSIS COMPLETED AUGUST 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 tetrachloretylene
	From	To			V	H	Dry Bulk	Apparent Grain	Water	Oil				
1	8739'	8739'9"	Sst; m.gr. carb.	16.8	27	0.84	2.27	2.75	61	4.5	N.D.	fair	Nil	Nil
1	8742'9"	8743'	Sst; f.gr. to m.gr.	24.4	530	170	2.04	2.69	19	3.2	N.D.	fair	Nil	Nil
1	8748'8"	8749'	Sst; m.gr.	24.1	501	740	2.02	2.66	34	1.6	N.D.	trace	Nil	Nil
1	8754'6"	8755'	Sst; f.gr.to m.gr. slty	17.3	69	15	2.23	2.70	35	Nil	N.D.	trace	Nil	Nil
1	8760'	8761'	Sst; m.gr	23.7	915	519	2.04	2.67	36	0.86	N.D.	strong	Nil	Nil
1	8766'8"	8767'	Sst; f.gr. to m.gr.	22.7	1825	239	2.07	2.67	11	0.63	N.D.	trace	spotted dull yellow	Nil
2	8772'10"	8773	Sst; m.gr.	20.7	368	170	2.15	2.71	26	NIL	N.D.	Nil	very dull spotted yellow	Nil
2	8776	8776'10"	Sst; f.gr. to m.gr sl slty	23.0	364	451	2.07	2.68	42	1.2	N.D.	Tr	spotted dull 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. MARLIN A-24

DATE ANALYSIS COMPLETED AUGUST 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	8782'	8782'8"	Sst; f.gr. to m.gr. slty	22.0	177	148	2.10	2.69	40	4.3	N.D.	Strong	Nil	Nil
3	8788'	8788'10"	Sst; f.gr. to m.gr. carb.	22.2	7.2	432	2.14	2.75	28	0.95	N.D.	Strong	Nil	Nil
3	8794'	8794'10"	Sst; m.gr.	22.1	396	257	2.11	2.70	15	Nil	N.D.	Tr	Nil	Nil
3	8800'	8801'	Sst; f.gr. to m.gr.	22.1	84	189	2.09	2.68	17	0.68	N.D.	Fair	Nil	Nil
3	8804'	8804'8"	As above carb slty	20.7	68	172	2.13	2.69	46	4.0	N.D.	Strong	Nil	Nil
3	8810'	8810'11"	Sst; f.gr. to m.gr. slty	15.0	32	38	2.30	2.70	46	0.56	N.D.	Fair	Nil	Nil
3	8815'	8815'7"	Sst; f.gr. slty carb.	13.5	1.5	0.65	2.34	2.70	35	1.6	N.D.	Fair	Nil	Nil
3	8819'	8819'9"	Sst; m.gr. carb.	14.8	32	102	2.19	2.57	38	0.31	N.D.	Fair	Nil	Nil

Remarks: -

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

APPENDIX 5

LOG ANALYSIS AND TABLE CONVERTING MEASURED NET SAND THICKNESS TO TRUE THICKNESSES

MARLIN A-24

VICTORIA, AUSTRALIA

October, 1973

WELL LOG ANALYSIS REPORT

TO WELL FILE
c.c. W.W. Fraser (2), W.F. Threlfall

OPERATOR ESSO AUSTRALIA LTD WELL MARLIN A-24 DATE 30 JULY 1973

STATE VICTORIA ELEV. 90' KB

DEPTH INTERVAL	POROSITY ESTIMATE	WATER SAT. ESTIMATE	REMARKS
8742-45 (3	21-22	13-15	Gas Productive
8745-48 (3	12.5-13.5	14-17	"
8748-52 (4	23-24	8-9	"
8752-56 (4	17-18	13-15	"
8756-62 (6	20-21	11-13	"
8762-66 (4	18.5-19.5	13-15	"
8766-69 (3	16-17	13-15	"
8769-72 (3	18.5-19.5	11-14	"
8772-75 (3	19.5-21	10-13	"
8775-78 (3	18.5-19.5	10-13	"
8778-84 (6	20-21	9-10	"
8784-86 (2	15-16.5	14-17	"
8786-90 (4	14-15	21-24	"
8790-96 (6	17.5-18.5	13-15	"
8796-98 (2	20.5-21.5	13-14	"
8798-01 (3	17-18.5	16-19	"
8801-05 (4	19.5-20.5	13-15	"
8805-08 (3	18-19	15-17	"
8808-11 (3	16-17	19-22	"
8811-18 (7	19-20	14-17	"
8818-21 (3	17-18.5	20-23	"
8821-23 (2	15.5-16.5	25-28	"
8823-25 (2	13-14	31-34	Shaley, gas productive
8825-28 (3	15-16	26-29	Gas productive
8828-32 (4	13.5-14.5	22-25	"
8837-39 (2	15-16	22-24	"
8839-42 (3	19.5-21	15-18	"
8842-47 (5	17-18	16-18	"
8847-51 (4	19.5-20.5	13-15	"
8851-53 (2	18-19	16-19	"
8853-57 (4	15-16	21-24	"
8857-60 (3	17-18.5	12-15	"
8860-65 (5	22.5-23.5	10-11	"
8865-68 (3	21-22.5	15-17	"
8868-71 (3	22-23.5	12-14	"
8871-74 (3	20.5-22	13-16	"
8890-97 (7	15.5-17	26-30	"

TESTS:

FORMATION:
Paleocene Latrobe

LOGS:
IES, FDC-GR, SNP-GR

COMMENTS:

This report completes the coverage of the prospective hydrocarbon producing section of the Paleocene. Revision of these reports may be made in light of continued evaluation drilling.

BY R B Stagg

WELL MARLIN A-24

DEPTH INTERVAL	POROSITY ESTIMATE	WATER SAT. ESTIMATE	REMARKS
9216-21 (5	14.5-15.5	23-25	Gas productive
9508-11 (3	12.5-13.5	29-34	Shaley, gas productive
9511-18 (7	16-17	19-22	Gas productive
* 9593-01 (8	23-24	8-9	"
9681-84 (3	15-16.5	29-33	"
9760-64 (4	13-14	38-41	Shaley, gas productive
9764-68 (4	15.5-16.5	34-37	Shaley, gas productive
9813-24 (11	19.5-21	10-13	Gas productive
9824-28 (4	20.5-21.5	7-8	"
9828-33 (5	19.5-21	9-11	"
9833-36 (3	21-22.5	9-11	"
9836-38 (2	16.5-18	12-15	"
9838-42 (4	21-22	8-10	"
9842-45 (3	19.5-21	14-17	"
9845-48 (3	18-19	23-26	"
9949-55 (6	16.5-17.5	18-20	"
9955-61 (6	19-20	12-14	"
9961-64 (3	17-18	22-26	"
9979-83 (4	19-20	18-20	"
9983-90 (7	17-18.5	20-24	"
9990-96 (6	15-16.5	27-32	"
9996-04 (8	13.5-14.5	38-41	Shaley, gas productive
10065-76 (11	16-17	19-22	Gas productive
10076-83 (7	15-16	21-24	"
10085-95 (10	14.5-16	22-26	"
10095-01 (6	17.5-18.5	17-20	"
10106-13 (7	19.5-21	12-14	"
10113-17 (4	18.5-19.5	14-17	"
10117-22 (5	16-17	15-18	"
10122-26 (4	19-20	14-16	"
10126-28 (2	17-18.5	20-24	"
10135-37 (2	14.5-16	18-21	"
10137-41 (4	16.5-18	19-21	"
10212-14 (2	17-18.5	16-19	"
10214-21 (7	22-23	8-9	"
10221-25 (4	22.5-24	7-8	"
10225-29 (4	19.5-21	14-16	"
See report of June 19, 1973			
Induction measured depths * 9568-71 (3	19-20	20-23	" KBK.

WELL LOG ANALYSIS REPORT

c.c. W.W. Fraser(2)
W.F. Threlfall

TO WELL FILE.

OPERATOR ESSO AUSTRALIA LTD. WELL MARLIN A-24 DATE June 19, 1973

STATE VICTORIA ELEV. KB 90'

DEPTH INTERVAL	POROSITY ESTIMATE	WATER SAT. ESTIMATE	REMARKS
10411-17 (6	16 - 17	18-19	Probably gas productive.
10417-22 (5	16 - 17	25-26	Probably oil productive
10422-25 (3	14.5 - 15.5	31-34	Probably oil productive
10439-41 (2	14.5 - 15.5	27-30	Probably oil productive
10441-47 (6	17.5 - 18.5	21-23	Probably oil productive
10464-67 (3	16.5 - 17.5	24-26	Probably oil productive
10467-71 (4	13 - 14	33-36	Probably oil productive
10560-62 (2	12.5 - 13.5	48-53	Probably not effective
10562-66 (4	15 - 16	40-43	Possibly oil productive
10574-81 (7	17.5 - 18.5	20-22	Probably oil productive
10581-88 (7	18.5 - 19.5	22-24	Probably oil productive
10588-93 (5	15 - 16	26-27	Probably oil productive
10593-99 (6	17 - 18	17-19	Probably oil productive
10599-605 (6	20 - 21	17-18	Probably oil productive
10605-10 (5	18.5 - 19.5	25-26	Probably oil productive
10623-30 (7	15.5 - 16.5	46-49	Formation water productive
10637-44 (7	15 - 16	44 - 48	Formation water productive

INDUCTION MEASURED DEPTHS

TESTS:

FORMATION:

PALEOCENE LATROBE

LOGS:

IES, FDC-GR, SNP-GR.

COMMENTS:

Only the prospective oil producing Paleocene section and adjacent beds have been considered in this effort. Normal shale corrections were not made because of the unique shale responses noted in this section.

BY R.B. KING

APPENDIX 6

FORMATION INTERVAL TESTS

MARLIN A-24

VICTORIA, AUSTRALIA

October, 1973

LIST AND DESCRIPTION OF TESTS AND INTERPRETATION OF TEST RESULT

Twenty two FIT tests were performed in Marlin A-24 by Schlumberger. All tests were conducted inside 5½" cemented liner using shaped charge to penetrate the liner. In addition to the Schlumberger pressure gauges, dual Amerada gauges with rated capacities of 0-8,500 and 0-11,800 PSIG were run in some tests. Because the 5½" liner limits the outside diameter allowed on the FIT tool the Ameradas could not be run on the outside of the tool. Amerada pressures are only available on those tests that did not run a segregator.

Note: All depths are measured depths from the GR-FDC log.
(Mud Rmf = 0.55 @ 60°F)

FIT #1 @ 10,720'

Recovery 9000 cc filtrate

(Segregator) None used

Properties Water Cl- 5000PPM, Ph 8.5, Rest.0.560 at 70°F

Gas in solution (extracted by blendor)

C1	1,208PPM	89.82%
C2	88	6.54%
C3	49	3.64%

Pressures

	Schlumberger	Agnew (Single Amerada)
Sampling pressure	3,875 psi	3484.4 psi
Final Shut-in	3,875 psi	3496.6 psi
Hydrostatic	5,000 psi	4566.2 psi
Sampling Time	8 min	
Shut-in Time	3 min	

FIT #2 @ 10,640'

Recovery 9000 cc filtrate

(Segrator) None used

Properties Water Cl- 6000PPM, Ph 10.5, Rest.0.532 @ 70°F

Gas in solution (extracted by blendor)

C1	585PPM	27.56%
C2	525	24.73%
C3	617	29.06%
C4	132	6.22%
C5	264	12.43%

Pressures

	Schlumberger	Agnew (Dual Ameradas)
Sampling pressure	3,800 psi	3918 psi, 3821 psi
Final Shut-in	4,300 psi	4346 psi, 4330 psi
Hydrostatic	5,000 psi	4597 psi, 4598 psi
Sampling Time	10 min	
Shut-in Time	4 min	

..2/

FIT #3 @ 10,605'

Recovery 9000 cc mud

(Segregator) Only mud recovered

Properties Water Cl- 7000PPM, Ph 12.0, Rest. 0.66 at 70°F

Gas in solution (extracted by blendor)

C1	1,720PPM	59.97%
C2	508	17.71%
C3	475	16.56%
C4	53	1.85%
C5	112	3.91%

Pressures

	Schlumberger	Agnew
Sampling pressure	4,750 psi	None used
Final Shut-in	4,850 psi	
Hydrostatic	4,900 psi	
Sampling Time	13 min	
Shut-in Time	7 min	

FIT #4 @ 10,545'

Recovery 11,500 cc mud (Mud Run)

(Segregator) Not opened (Mud Run)

Pressures

	Schlumberger	Agnew
Sampling pressure	4 psi	None used
Final Shut-in	-	
Hydrostatic	4,850 psi	
Sampling Time	-	
Shut-in Time	-	

FIT #5 @ 10,578'

Recovery Full chamber of Mud (11,500 cc) Mud Run

(Segregator) Not opened

Pressures

	Schlumberger	Agnew
Hydrostatic only	4,500 psi	None used

NOTE: Due to results of FIT's #3,4 and 5, the liner was perforated and cement squeezed.

FIT #6 @ 10,420'

Recovery 3.8 CF gas
4100 cc muddy water

(Segregator) Failed to open after main chamber sealed.

..3/

Properties Water Cl- 3000PPM, Ph 10.0, Resist. of filtrate 0.54 at 70°F
Resist. of gas cut mud 9.4 at 70°F.

Gas

C1	109,251PPM	63.7%
C2	33,320	19.4%
C3	22,022	12.9%
C4	4,277	2.5%
C5	2,572	1.5%

Pressures

	Schlumberger	Agnew
Sampling Pressure	3,800 psi	None used
Final Shut-in	3,800 psi	
Hydrostatic	4,800 psi	
Sampling Time	10 min	
Shut-in Time	-	

FIT #7 @ 10,220'

Recovery 54.6 CF
2,000 cc muddy filtrate

(Segregator) #3 Monel not opened

Properties Filtrate Cl- 4500PPM, Ph 8.0, Resist. 0.45 at 70°F

Gas

C1	111,042PPM	66.1%
C2	38,318	22.8%
C3	15,246	9.1%
C4	1,974	1.2%
C5	1,470	0.9%

FIT #8 @ 10,360'

Recovery 7,700 cc filtrate
1,300 cc mud cake

(Segregator) None used (Ran Ameradas)

Properties Filtrate Cl- 3000PPM, Ph 12.0, Resist. 0.583 at 70°F

Gas in solution (extracted by blendor)

C1	1,240PPM	59.9%
C2	217	10.5%
C3	288	13.9%
C4	105	5.1%
C5	220	10.6%

Pressures

	Schlumberger	Agnew (Dual Ameradas)
Sampling pressure	3,500 psi	3603 psi, 3607 psi
Final Shut-in	3,650 psi	3629 psi, 3681 psi
Hydrostatic	4,750 psi	4646 psi, 4664 psi
Sampling Time	11 min	
Shut-in Time	4.5 min	

..4/

FIT #9 @ 10,072'

Recovery 22.5 cu ft. Gas
6500 Filtrate

(Segregator) Malfunction - failed to close

Properties Filtrate Cl- 3500, Ph 8.0, Resist. 0.658 at 70°F

Gas

C1	111,042PPM	60.8%
C2	40,817	22.3%
C3	22,022	12.1%
C4	3,619	2.0%
C5	5,145	2.8%

Pressures

	Schlumberger	Agnew (Amerada)
Sampling pressure	3,550 psi	None used
Final Shut-in	3,760 psi	
Hydrostatic	4,500 psi	
Sampling Time	2 min	
Shut-in Time	5 min	

FIT #10 @ 9957'

Recovery 49.5 cu. ft. Gas
3900 cc Gas cut filtrate and mud

(Segregator) #17 not opened

Properties Filtrate Cl- 3000PPM, Ph 8.0, Resist. GCM 1.90 at 70°F
Resist. of GC Filtrate 0.54 at 70°F

Gas

C1	112,833 PPM	64.3%
C2	33,320	19.0%
C3	20,328	11.6%
C4	4,606	2.6%
C5	4,410	2.5%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,500 psi	None used
Final Shut-in	3,575 psi	
Hydrostatic	4,650 psi	
Sampling Time	1.5 min	
Shut-in Time	8.5 min	

FIT #11 @ 9,823'

Recovery 42.8 cu. ft. gas
6000 cc gas cut mud and filtrate

(Segregator) #24 not opened

..5/

Properties Filtrate Cl-5500PPM, Ph 7.5, Resist. GCMF 2.47 at 70°F
Resist. of filtrate 0.41 at 70°F

Gas

C1	112,833PPM	59.4%
C2	37,485	19.7%
C3	26,257	13.8%
C4	5,922	3.1%
C5	7,350	3.9%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,550 psi	None used
Final Shut-in	3,750 psi	
Hydrostatic	4,650 psi	
Sampling Time	2-3/4 min	
Shut-in Time	2-3/4 min	

FIT #12 @ 9514'

Recovery 2.2 cu. ft. gas
11,750 cc mud slightly gas cut

(Segregator) None used

Properties Filtrate Cl-5000PPM, Ph 12.0, Resist. mud 0.95 at 70°F
Resist filtrate 0.43 at 70°F

Gas

C1	107,460PPM	63.8%
C2	25,823	15.3%
C3	21,175	12.6%
C4	5,922	3.5%
C5	8,085	4.8%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,400 psi	3303.7 psi, 3380.6 psi
Final Shut-in	3,750 psi	3628.8 psi, 3631.0 psi
Hydrostatic	4,300 psi	4645.8 psi, 4664.2 psi
Sampling Time	7½ min	
Shut-in Time	2¼ min	

FIT #13 @ 10,600'

Recovery 26.8 cu. ft. gas
7,300 cc. oil

(Segregator) #5 not opened

Properties Oil 41.7°API Gravity at 70°F, Pour point 84°F

Gas

C1	104,554PPM	59.1%
C2	38,400	21.7%
C3	23,274	13.2%
C4	3,570	2.0%
C5	7,196	4.1%

..6/

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,700 psi	None used
Final Shut-in	3,550 psi	
Hydrostatic	4,650 psi	
Sampling Time	1 min	
Shut-in Time	12 min	

FIT #14 @ 10,445'

Recovery 16.4 cu. ft. gas
11,000 cc. water, mud and oil emulsion

Properties Resist. of Fluid 11.4 at 70°F, Oil 41.1°API Gravity at 70°F
Pour point 71°F

Gas

C1	107,982PPM	50.3%
C2	46,400	21.6%
C3	40,514	18.9%
C4	10,714	5.0%
C5	9,090	4.2%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,600 psi	3701.4 psi, 3698.2 psi
Final Shut-in	3,600 psi	3718.5 psi, 3716.5 psi
Hydrostatic	4,250 psi	4568.8 psi, 4560.1 psi
Sampling Time	NA	
Shut-in Time	11½ min	

FIT #15 @ 9220'

Recovery 19.4 cu. ft. gas
7000 cc. filtrate with trace mud, trace condensate

(Segregator) None used

Properties Filtrate Cl- 3000PPM, Ph 11.5, Resist. mud/water 0.614 at 70°F
Resist. filtrate 0.52 at 70°F
Condensate API Gravity 59° @ 70°F

Gas

C1	106,268PPM	62.4%
C2	35,200	20.7%
C3	22,412	13.2%
C4	2,975	1.8%
C5	3,333	2.0%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,300 psi	3333.6 psi, 3319.5 psi
Final Shut-in	3,350 psi	3342.2 psi, 3337.8 psi
Hydrostatic	4,000 psi	4047.5 psi, 4040.3 psi
Sampling Time	1½ min	
Shut-in Time	9 min	

..7/

FIT #16 @ 8862'

Recovery 49.1 cu. ft. gas
200 cc. condensate
180 cc. mud

(Segregator) #16

Properties Condensate 59°API Gravity at 70°F

Gas

C1	101,983PPM	63.0%
C2	32,800	20.3%
C3	19,826	12.3%
C4	2,677	1.7%
C5	4,545	2.8%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,300 psi	Not used
Final Shut-in	3,300 psi	
Hydrostatic	3,750 psi	
Sampling Time	-	
Shut-in Time	12½ min	

FIT #17 @ 8758'

Recovery 15.7 cu. ft. gas
12,000 cc. mud

(Segregator) Lost segregator sample

Properties Filtrate Cl-9000PPM, Ph 11.5, Resist. mud 0.90 at 70°F
Resist. filtrate 0.314 at 70°F

Gas

C1	104,554PPM	55.7%
C2	35,200	18.8%
C3	31,032	16.6%
C4	6,247	3.3%
C5	10,605	5.7%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,550 psi	Not used
Final Shut-in	3,750 psi	
Hydrostatic	3,850 psi	
Sampling Time	2½ min	
Shut-in Time	9 min	

FIT #18 @ 10,359'

Recovery Full chamber of mud, went to hydrostatic straight away.

(Segregator) Not opened.

Pressures

	Schlumberger	Agnew (Ameradas)
Hydrostatic only	4,350 psi	None used

..8/

FIT #19 @ 10,383'

Recovery Main chamber 1.4 cu. ft. gas
7,250 cc. water and mud
Segregator 15 cu. ft. gas
150 cc. condensate

(Segregator) Used but dumped

Properties Filtrate Cl-4000PPM, Ph 12.0, Resist. mud 0.73 at 70°F
Resist filtrate 0.56 at 70°F

Gas

C1	106,268PPM	71.9%
C2	25,600	17.3%
C3	12,499	8.5%
C4	1,488	1.0%
C5	1,894	1.3%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	2,150 psi	Not used
Final Shut-in	3,500 psi	
Hydrostatic	4,350 psi	
Sampling Time	10 min	
Shut-in Time	7½ min	

FIT #20 @ 10,585'

Recovery Main chamber 9,250 cc filtrate
Segregator 2,250 cc filtrate

(Segregator) Used but dumped

Properties Filtrate Main chamber Cl- 3000PPM, Ph 10.5, Resist. 0.75 at 70°F
Filtrate Segregator Cl- 3500PPM, Ph 11.0, Resist. 0.72 at 70°F
(gas in solution extracted with blendor)

Gas

C1	600PPM	75.6%
C2	88	11.1%
C3	65	8.2%
C4	11	1.4%
C5	30	3.8%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,650 psi	Not used
Final Shut-in	3,650 psi	
Hydrostatic	4,100 psi	
Sampling Time	NA	
Shut-in Time	5+ min	

FIT #21 @ 8796'

Recovery 52.7 cc. ft. gas
100 cc. condensate
1300 cc. filtrate/mud

(Segregator) #2 not opened

..9/

Properties Filtrate Cl-3500PPM, Ph 7.5, Resist. 0.55 at 70°F
Mud/Filtrate Resist.0.78 at 70°F

Gas

C1	104,554PPM	55.8%
C2	39,200	20.9%
C3	29,308	15.7%
C4	5,058	2.7%
C5	9,090	4.9%

Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,200 psi	None used
Final Shut-in	3,350 psi	
Hydrostatic	4,000 psi	
Sampling Time	1½ min	
Shut-in Time	9 min	

FIT #22 @ 10,465'

Recovery 36.3 cu. ft. gas
5,500 cc. oil
1,000 cc. filtrate (muddy)

(Segregation) #1 (Monel)

Properties Filtrate Cl-4000PPM, Ph 7.5, Resist. 0.60 at 70°F
Mud Resist. 0.85 at 70°F
Oil 45°API Gravity, pour point 63°F
GOR 1,051.1

Gas

C1	106,268PPM	64.1%
C2	37,600	22.7%
C3	18,102	10.9%
C4	2,380	1.4%
C5	1,515	0.9%

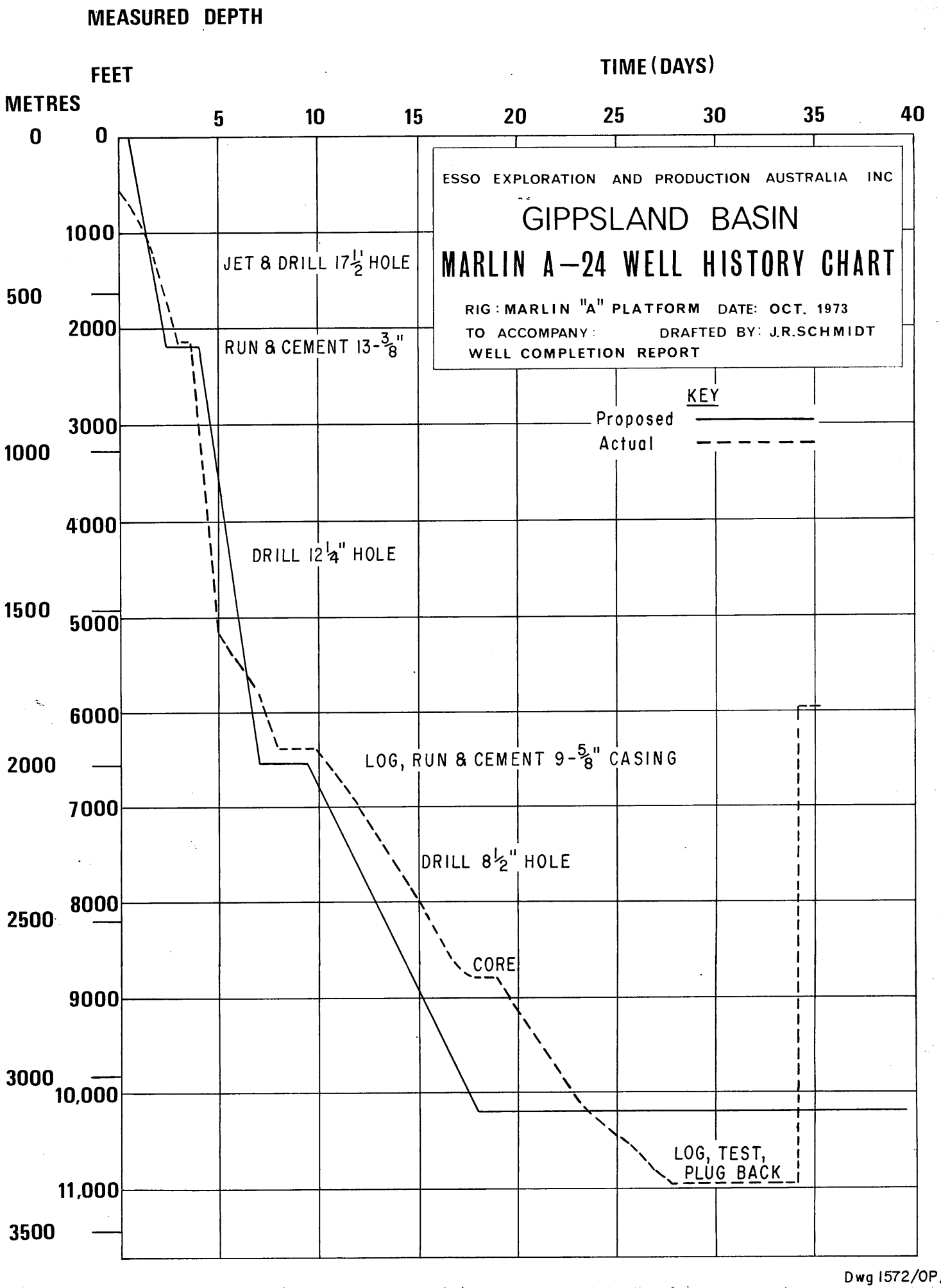
Pressures

	Schlumberger	Agnew (Ameradas)
Sampling pressure	3,500 psi	None used
Final Shut-in	3,550 psi	
Hydrostatic	3,900 psi	
Sampling Time	1½ min	
Shut-in Time	12 min	

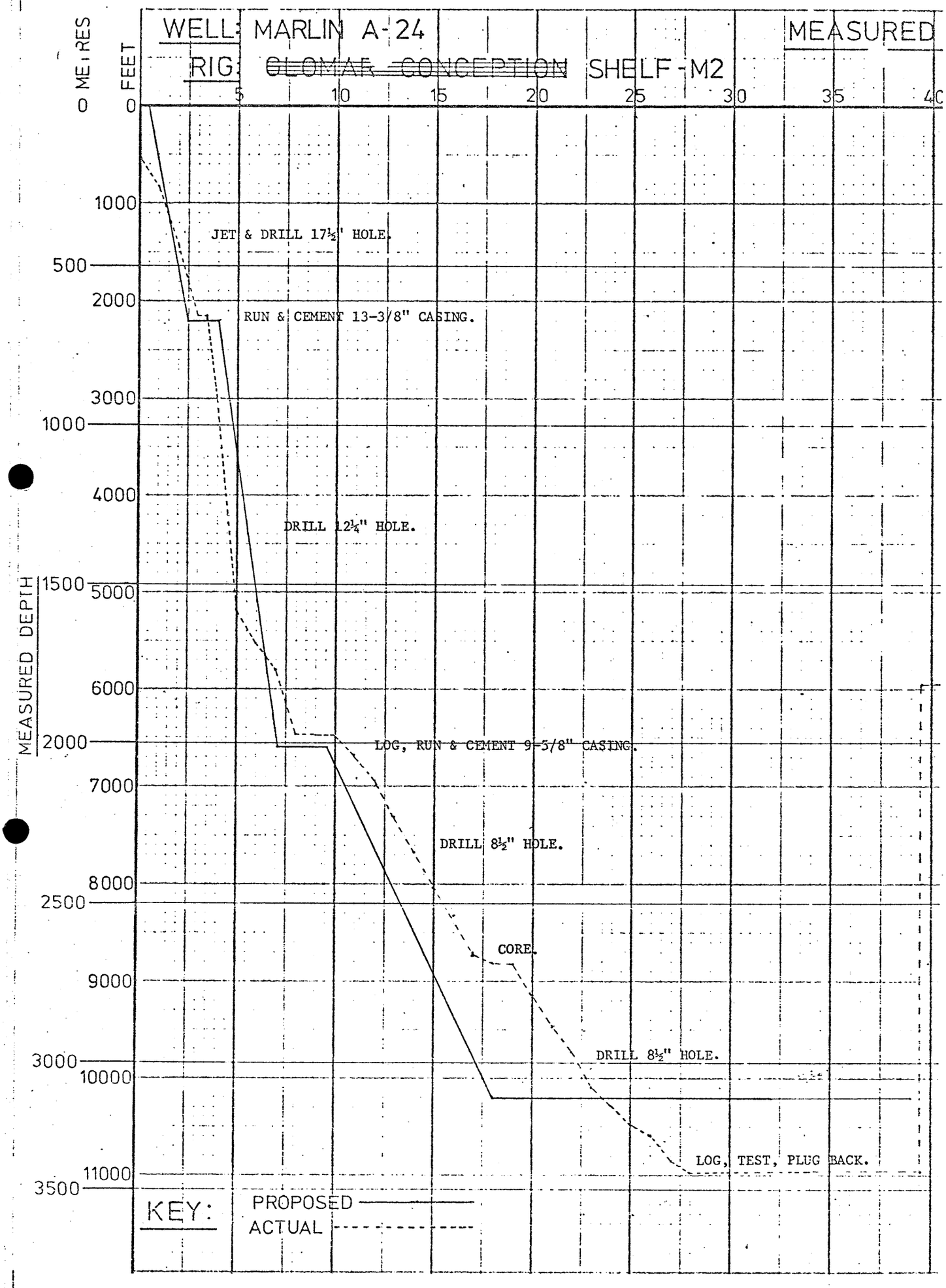
APPENDIX 7

WELL HISTORY CHART
MARLIN A-24
VICTORIA, AUSTRALIA

October, 1973


MEASURED DEPTH
FEET
METRES
TIME (DAYS)
0
5
10
15
20
25
30
35
40
0
1000
500
2000
3000
1000
4000
1500
5000
6000
2000
7000
2500
8000
9000
3000
10,000
11,000
3500
ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC
GIPPSLAND BASIN
MARLIN A-24 WELL HISTORY CHART
RIG : MARLIN "A" PLATFORM DATE: OCT. 1973
TO ACCOMPANY : DRAFTED BY: J.R.SCHMIDT
WELL COMPLETION REPORT
KEY
Proposed
Actual
JET & DRILL 17½" HOLE
RUN & CEMENT 13-⅜"
DRILL 12¼" HOLE
LOG, RUN & CEMENT 9-⅝" CASING
DRILL 8½" HOLE
CORE
LOG, TEST, PLUG BACK

Dwg 1572/OP/5


WELL: MARLIN A-24
RIG: GLOMAR CONCEPTION SHELF - M2
MEASURED
METRES
FEET
0
0
5
10
15
20
25
30
35
40
1000
500
2000
3000
1000
4000
1500
5000
6000
2000
7000
8000
2500
9000
3000
10000
11000
3500
MEASURED DEPTH
JET & DRILL 17½" HOLE.
RUN & CEMENT 13-3/8" CASING.
DRILL 12¼" HOLE.
LOG, RUN & CEMENT 9-5/8" CASING.
DRILL 8½" HOLE.
CORE.
DRILL 8½" HOLE.
LOG, TEST, PLUG BACK.
KEY:
PROPOSED
ACTUAL

APPENDIX 8

MD-TVD CONVERSIONS

MARLIN A-24

VICTORIA, AUSTRALIA

October, 1973

MARLIN A-24

BOTTOM HOLE LOCATION CALCULATIONS USING RADIUS OF CURVATURE

COURSE LENGTH	MEASURED DEPTH	TRUE VERTICAL DEPTH	INCLINATION DEG	INCLINATION MIN	DIRECTION DEG	RECTANGULAR COORDINATES NORTH/SOUTH	RECTANGULAR COORDINATES EAST/WEST	TOTAL CURVATURE TOP	TOTAL CURVATURE BOTTOM
	0.	0.				0.	0.		
50.	50.	50.	0.	30.	S 87. E	-0.13 S	0.14 E	1.00	3.40
50.	100.	100.	0.	12.	N 81. E	-0.12 S	0.45 E	0.67	0.60
50.	150.	150.	0.	1.	N 0. E	-0.05 S	0.50 E	1.10	0.37
50.	200.	200.	0.	12.	S 52. E	-0.09 S	0.57 E	0.37	1.68
50.	250.	250.	0.	1.	N 0. E	-0.05 S	0.64 E	1.68	0.37
50.	300.	300.	0.	1.	N 0. E	-0.04 S	0.64 E	0.0	0.0
50.	350.	350.	0.	12.	N 54. W	0.04 N	0.60 E	0.37	0.78
50.	400.	400.	0.	15.	N 57. W	0.15 N	0.44 E	0.10	0.10
50.	450.	450.	0.	48.	N 58. E	0.54 N	0.44 E	1.20	5.01
50.	500.	500.	1.	20.	S 83. E	0.34 N	1.33 E	1.34	2.51
73.	573.	573.	1.	0.	S 74. E	0.05 N	2.79 E	0.56	0.49
30.	603.	603.	1.	0.	N 5. E	0.31 N	3.16 E	5.88	5.88
31.	634.	634.	2.	0.	N 30. E	1.07 N	3.41 E	3.36	4.95
21.	655.	655.	1.	45.	N 32. W	1.73 N	3.40 E	11.06	8.50
41.	696.	696.	1.	0.	N 20. W	2.61 N	2.96 E	2.15	1.87
31.	727.	727.	1.	0.	N 24. W	3.11 N	2.76 E	0.23	0.23
31.	758.	758.	1.	30.	S 89. W	2.77 N	2.22 E	3.42	6.98
32.	790.	790.	1.	15.	S 68. W	2.62 N	1.48 E	2.03	1.52
31.	821.	821.	1.	0.	S 27. W	2.21 N	1.04 E	3.31	2.20
63.	884.	884.	2.	0.	S 28. E	0.63 N	1.05 E	1.88	4.36
55.	939.	939.	2.	0.	S 5. W	-1.23 S	0.67 E	2.09	2.09
63.	1002.	1002.	3.	0.	S 9. W	-3.95 S	0.34 E	1.60	1.64
63.	1065.	1065.	4.	15.	S 27. W	-7.73 S	-0.89 W	2.34	3.18
62.	1127.	1126.	6.	0.	S 27. W	-12.66 S	-3.40 W	2.82	2.82
63.	1190.	1189.	7.	30.	S 23. W	-19.37 S	-6.53 W	2.45	2.55
61.	1251.	1249.	9.	15.	S 24. W	-27.52 S	-10.07 W	2.88	2.88
63.	1314.	1311.	11.	0.	S 27. W	-37.51 S	-14.84 W	2.86	2.95
62.	1376.	1372.	13.	0.	S 27. W	-49.00 S	-20.69 W	3.23	3.23
62.	1438.	1432.	14.	30.	S 23. W	-62.35 S	-26.92 W	2.78	2.96
124.	1562.	1552.	17.	0.	S 21. W	-93.55 S	-39.53 W	2.05	2.08
125.	1687.	1670.	19.	15.	S 24. W	-129.47 S	-54.40 W	1.92	1.99
125.	1812.	1787.	23.	15.	S 25. W	-170.69 S	-73.19 W	3.21	3.22
156.	1968.	1928.	27.	45.	S 26. W	-231.29 S	-102.09 W	2.89	2.90
156.	2124.	2062.	32.	30.	S 27. W	-301.34 S	-137.02 W	3.06	3.07
364.	2488.	2367.	34.	0.	S 27. W	-479.16 S	-227.62 W	0.41	0.41
501.	2989.	2780.	34.	45.	S 28. W	-730.06 S	-358.23 W	0.19	0.19
499.	3488.	3190.	34.	45.	S 30. W	-978.82 S	-496.12 W	0.23	0.23
502.	3990.	3602.	35.	15.	S 31. W	-1226.91 S	-642.25 W	0.15	0.15
502.	4492.	4010.	36.	0.	S 32. W	-1476.22 S	-795.03 W	0.19	0.19
495.	4987.	4408.	36.	45.	S 35. W	-1720.99 S	-957.04 W	0.38	0.40
243.	5230.	4602.	37.	15.	S 35. W	-1840.78 S	-1040.92 W	0.21	0.21
377.	5607.	4901.	37.	45.	S 35. W	-2028.78 S	-1172.56 W	0.13	0.13
193.	5800.	5054.	37.	45.	S 36. W	-2124.97 S	-1241.17 W	0.32	0.32
292.	6092.	5283.	39.	0.	S 36. W	-2271.62 S	-1347.72 W	0.43	0.43
368.	6460.	5565.	41.	0.	S 37. W	-2461.76 S	-1488.41 W	0.57	0.57
296.	6756.	5785.	42.	45.	S 37. W	-2619.55 S	-1607.31 W	0.59	0.59
86.	6842.	5848.	43.	30.	S 35. W	-2667.11 S	-1641.87 W	1.79	1.83
101.	6943.	5921.	43.	45.	S 32. W	-2725.21 S	-1680.32 W	2.05	2.07
284.	7227.	6124.	45.	0.	S 34. W	-2891.77 S	-1788.49 W	0.65	0.67

MARLIN A-24

BOTTOM HOLE LOCATION CALCULATIONS USING RADIUS OF CURVATURE

COURSE LENGTH	MEASURED DEPTH	TRUE VERTICAL DEPTH	INCLINATION DEG	INCLINATION MIN	DIRECTION DEG	RECTANGULAR COORDINATES NORTH/SOUTH	RECTANGULAR COORDINATES EAST/WEST	TOTAL CURVATURE TOP	TOTAL CURVATURE BOTTOM
123.	7350.	6211.	44.	45.	S 31. W	-2964.96 S	-1835.11 W	1.74	1.73
326.	7676.	6442.	45.	0.	S 34. W	-3158.93 S	-1958.69 W	0.65	0.66
307.	7983.	6657.	46.	0.	S 33. W	-3341.52 S	-2079.54 W	0.40	0.40
340.	8323.	6890.	47.	30.	S 33. W	-3549.20 S	-2214.41 W	0.44	0.44
92.	8415.	6953.	47.	15.	S 32. W	-3606.29 S	-2250.78 W	0.85	0.84
168.	8583.	7068.	45.	45.	S 35. W	-3707.90 S	-2318.03 W	1.60	1.55
239.	8822.	7236.	44.	45.	S 35. W	-3846.94 S	-2415.39 W	0.42	0.42
250.	9072.	7415.	44.	0.	S 37. W	-3988.37 S	-2519.15 W	0.64	0.63
246.	9318.	7594.	42.	45.	S 39. W	-4121.49 S	-2622.15 W	0.76	0.75
376.	9694.	7881.	37.	45.	S 44. W	-4303.33 S	-2783.03 W	1.63	1.54
256.	9950.	8086.	35.	45.	S 52. W	-4405.73 S	-2896.76 W	2.11	1.95
250.	10200.	8290.	34.	30.	S 55. W	-4491.28 S	-3012.37 W	0.87	0.84
257.	10457.	8503.	33.	30.	S 48. W	-4580.68 S	-3124.77 W	1.61	1.53
129.	10586.	8611.	33.	30.	S 56. W	-4624.48 S	-3180.83 W	3.42	3.42
402.	10988.	8943.	35.	0.	S 56. W	-4750.99 S	-3368.39 W	0.37	0.37

HORIZONTAL DEPARTURE = 5824. FEET AT SOUTH 35.DEG., 20. MIN. WEST (GRID)

TD 11003 8946

[redacted]

GEARHART AUSTRALIA

GEARHART PTY. LTD.

ESSO AUSTRALIA LIMITED

MARLIN A-24

February 24, 1982

P.O. Box 380 Sale, Victoria 3850 Telephone 051 443 044 Telex 55254

GEARHART AUSTRALIA PTY.LTD.
P.O. BOX 380 SALE VICTORIA 3850

ESSO AUSTRALIA LIMITED

MARLIN A-24
February 7 1982

OPERATION SCHEDULE

DATE AND HOURS	REMARKS
February 7 1982	
1800	Rig up A24
2000	Pressure lubricator to 20,000 kPa
2100	Run in hole
2200	Repair measuring head on wireline unit
2350	Run in hole
February 8 1982	
0055	Hang at 1728 m
0215	Hang at 1689 m 1st gradient
0250	Hang at 1651 m 2nd gradient
0330	Come out of hole
0500	Rig down A24

Well Name: MARLIN A-24 Company:ESSO AUSTRALIA LIMITED
Date:080282

Tool Positioned at a depth of:

TIME	PRESSURE	TEMP.	TIME	PRESSURE	TEMP.	TIME	PRESSURE	TEMP.
00:55:36	2166.61	182.1	00:55:38	2166.58	182.0	00:55:40	2166.56	182.0
00:55:42	2166.54	182.0	00:55:44	2166.52	182.0	00:55:46	2166.52	182.1
00:55:48	2166.47	182.0	00:55:50	2166.43	182.0	00:55:52	2166.42	182.0
00:55:54	2166.39	182.0	00:55:56	2166.37	182.0	00:55:58	2166.35	182.1
00:56:00	2166.33	182.1	00:56:04	2166.28	182.1	00:56:06	2166.25	182.1
00:56:08	2166.23	182.1	00:56:10	2166.20	182.1	00:56:12	2166.19	182.1
00:56:14	2166.15	182.1	00:56:16	2166.11	182.1	00:56:18	2166.09	182.1
00:56:20	2166.06	182.1	00:56:22	2166.04	182.1	00:56:24	2166.01	182.1
00:56:26	2165.98	182.0	00:57:50	2164.85	182.1	00:57:52	2164.82	182.1
00:57:54	2164.82	182.2	00:57:56	2164.78	182.2	00:57:58	2164.75	182.1
00:58:00	2164.71	182.1	00:59:22	2163.79	182.2	00:59:24	2163.75	182.2
00:59:26	2163.74	182.2	01:00:00	2163.40	182.2	01:01:00	2162.88	182.3
01:02:00	2162.47	182.2	01:03:00	2162.13	182.3	01:04:00	2161.84	182.3
01:05:00	2161.62	182.3	01:06:00	2161.43	182.3	01:07:00	2161.29	182.3
01:08:00	2161.18	182.4	01:09:00	2161.09	182.4	01:10:00	2161.00	182.3
01:[redacted]:00	2160.94	182.4	01:12:00	2160.91	182.4	01:13:00	2160.87	182.4
01:14:00	2160.83	182.4	01:15:00	2160.80	182.4	01:16:00	2160.81	182.5
01:17:00	2160.77	182.5	01:18:00	2160.75	182.5	01:19:00	2160.74	182.4
01:20:00	2160.75	182.5	01:21:00	2160.73	182.5	01:22:00	2160.73	182.5
01:23:00	2160.72	182.5	01:24:00	2160.72	182.5	01:25:00	2160.70	182.4
01:26:00	2160.72	182.5	01:27:00	2160.71	182.5	01:28:00	2160.71	182.5
01:29:00	2160.71	182.5	01:30:00	2160.70	182.5	01:31:00	2160.70	182.5
01:32:00	2160.71	182.5	01:33:00	2160.70	182.5	01:34:00	2160.70	182.5
01:35:00	2160.71	182.5	01:36:00	2160.70	182.5	01:37:00	2160.72	182.6
01:38:00	2160.72	182.6	01:39:00	2160.70	182.5	01:40:00	2160.70	182.5
01:41:00	2160.70	182.5	01:42:00	2160.70	182.5	01:43:00	2160.70	182.5
01:44:00	2160.70	182.6	01:45:00	2160.71	182.5	01:46:00	2160.71	182.6
01:47:00	2160.70	182.5	01:48:00	2160.70	182.6	01:49:00	2160.71	182.6
01:50:00	2160.70	182.5	01:51:00	2160.70	182.6	01:52:00	2160.70	182.6
01:53:00	2160.70	182.6	01:54:00	2160.70	182.6	01:55:00	2160.70	182.6
01:56:00	2160.70	182.6	01:57:00	2160.70	182.6	01:58:00	2160.69	182.5
01:59:00	2160.70	182.6	02:00:00	2160.70	182.6	02:05:04	2153.32	181.6
02:05:06	2153.29	181.5	02:05:08	2153.28	181.6	02:05:10	2153.28	181.6
02:05:12	2153.26	181.5	02:06:00	2153.12	181.6	02:07:00	2153.14	181.6
02:[redacted]:00	2153.27	181.6	02:09:00	2153.42	181.6	02:10:00	2153.58	181.5
02:11:00	2153.75	181.6	02:12:00	2153.86	181.6	02:13:00	2153.99	181.6
02:14:00	2154.10	181.6	02:15:00	2154.17	181.5	02:16:00	2154.24	181.5
02:17:00	2154.31	181.6	02:18:00	2154.34	181.5	02:19:00	2154.38	181.5
02:20:00	2154.43	181.6	02:21:00	2154.44	181.5	02:22:00	2154.46	181.5
02:23:00	2154.49	181.5	02:24:00	2154.50	181.6	02:25:00	2154.50	181.6
02:26:00	2154.51	181.6	02:27:00	2154.52	181.6	02:28:00	2154.53	181.6
02:29:00	2154.54	181.5	02:30:00	2154.54	181.6	02:31:00	2154.53	181.6
02:32:00	2154.54	181.6	02:33:00	2154.54	181.5	02:34:00	2154.54	181.5
02:35:00	2154.56	181.6	02:36:00	2154.55	181.5	02:37:00	2154.55	181.6
02:38:00	2154.56	181.6	02:39:00	2154.56	181.6	02:40:00	2154.55	181.6
02:44:48	2147.60	180.6	02:44:50	2147.58	180.6	02:45:00	2147.53	180.5
02:46:00	2147.45	180.6	02:47:00	2147.48	180.5	02:48:00	2147.61	180.5
02:49:00	2147.72	180.5	02:50:00	2147.84	180.6	02:51:00	2147.96	180.5
02:52:00	2148.06	180.5	02:53:00	2148.16	180.5	02:54:00	2148.25	180.5
02:55:00	2148.31	180.5	02:56:00	2148.39	180.6	02:57:00	2148.43	180.5
02:58:00	2148.48	180.6	02:59:00	2148.51	180.5	03:00:00	2148.53	180.5

Well Name: MARLIN A-24 Company:ESSO AUSTRALIA LIMITED
Date:080282

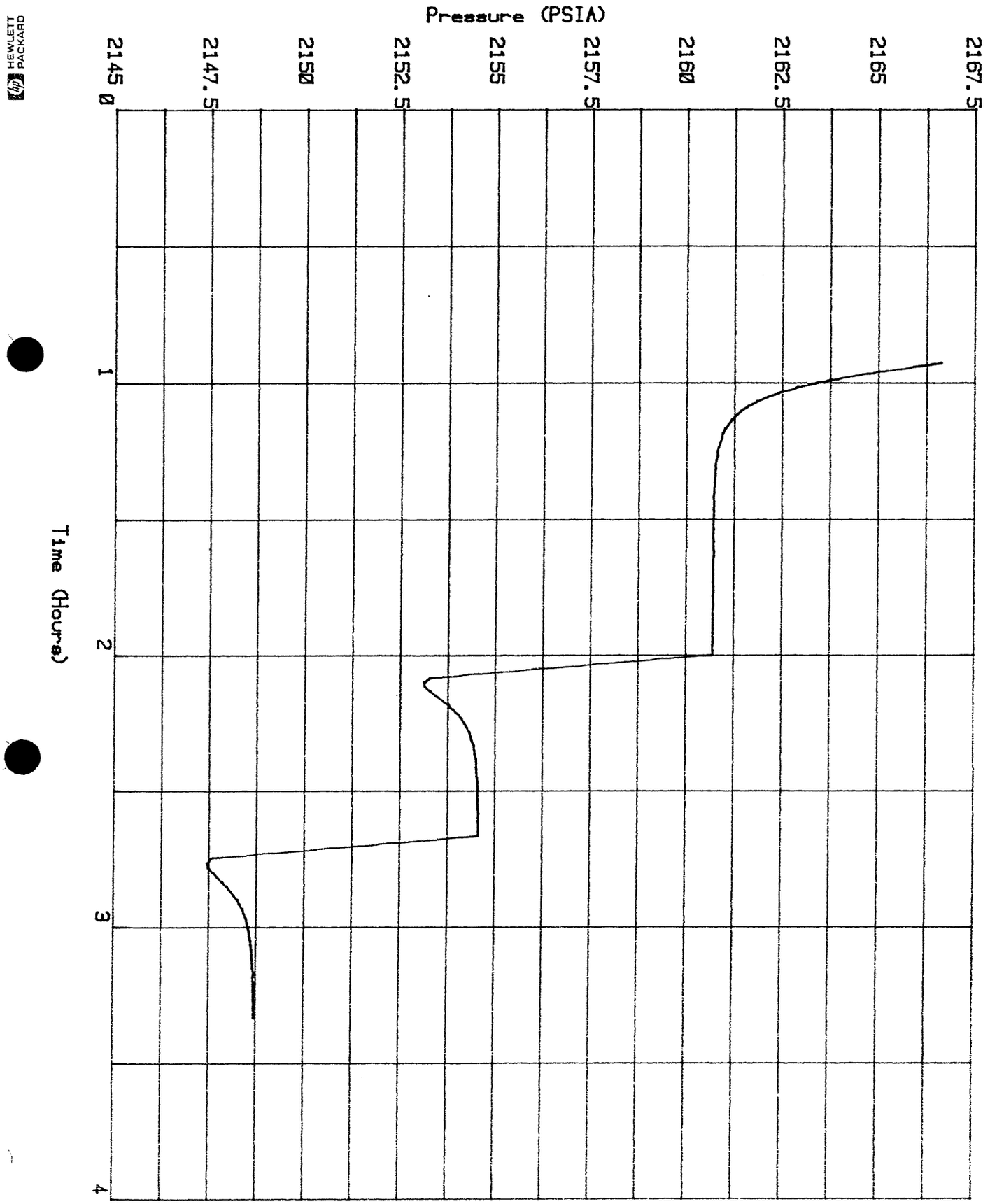
Tool Positioned at a depth of:

TIME	PRESSURE	TEMP.	TIME	PRESSURE	TEMP.	TIME	PRESSURE	TEMP.
03:01:00	2148.57	180.6	03:02:00	2148.58	180.5	03:03:00	2148.60	180.5
03:04:00	2148.61	180.5	03:05:00	2148.63	180.6	03:06:00	2148.64	180.5
03:07:00	2148.65	180.6	03:08:00	2148.66	180.5	03:09:00	2148.66	180.5
03:10:00	2148.69	180.6	03:11:00	2148.67	180.5	03:12:00	2148.68	180.6
03:13:00	2148.68	180.5	03:14:00	2148.68	180.5	03:15:00	2148.69	180.5
03:16:00	2148.68	180.5	03:17:00	2148.70	180.5	03:18:00	2148.69	180.5
03:19:00	2148.69	180.5	03:20:00	2148.69	180.5			

GEARHART AUSTRALIA - LINEAR PRESSURE PLOT

ESSO AUSTRALIA LIMITED MARLIN A-24

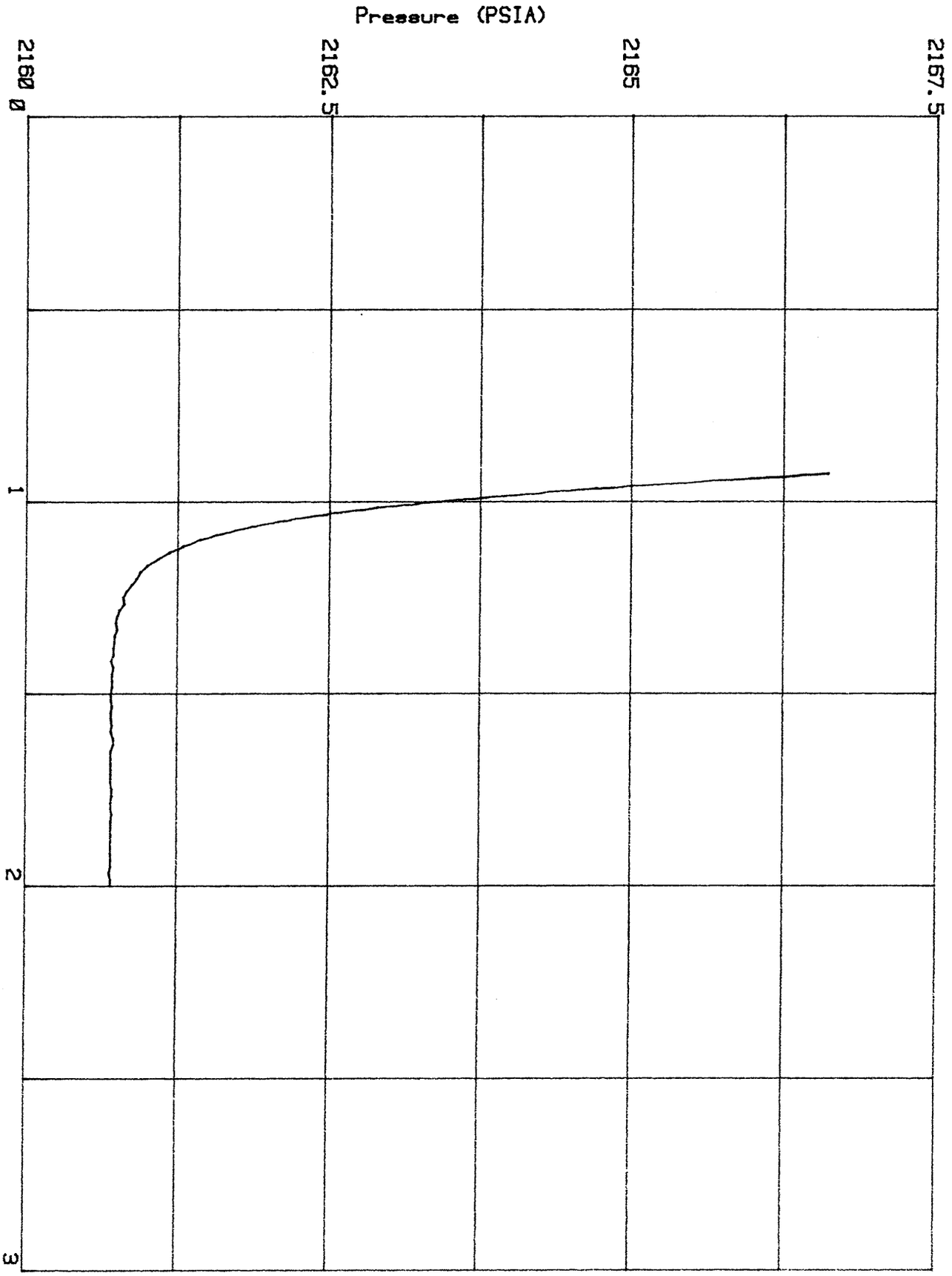
Plotted from: 0 to 30000 (Approx. 3 hrs.)



GEARHART AUSTRALIA - LINEAR PRESSURE PLOT

ESSO AUSTRALIA LIMITED MARLIN A-24

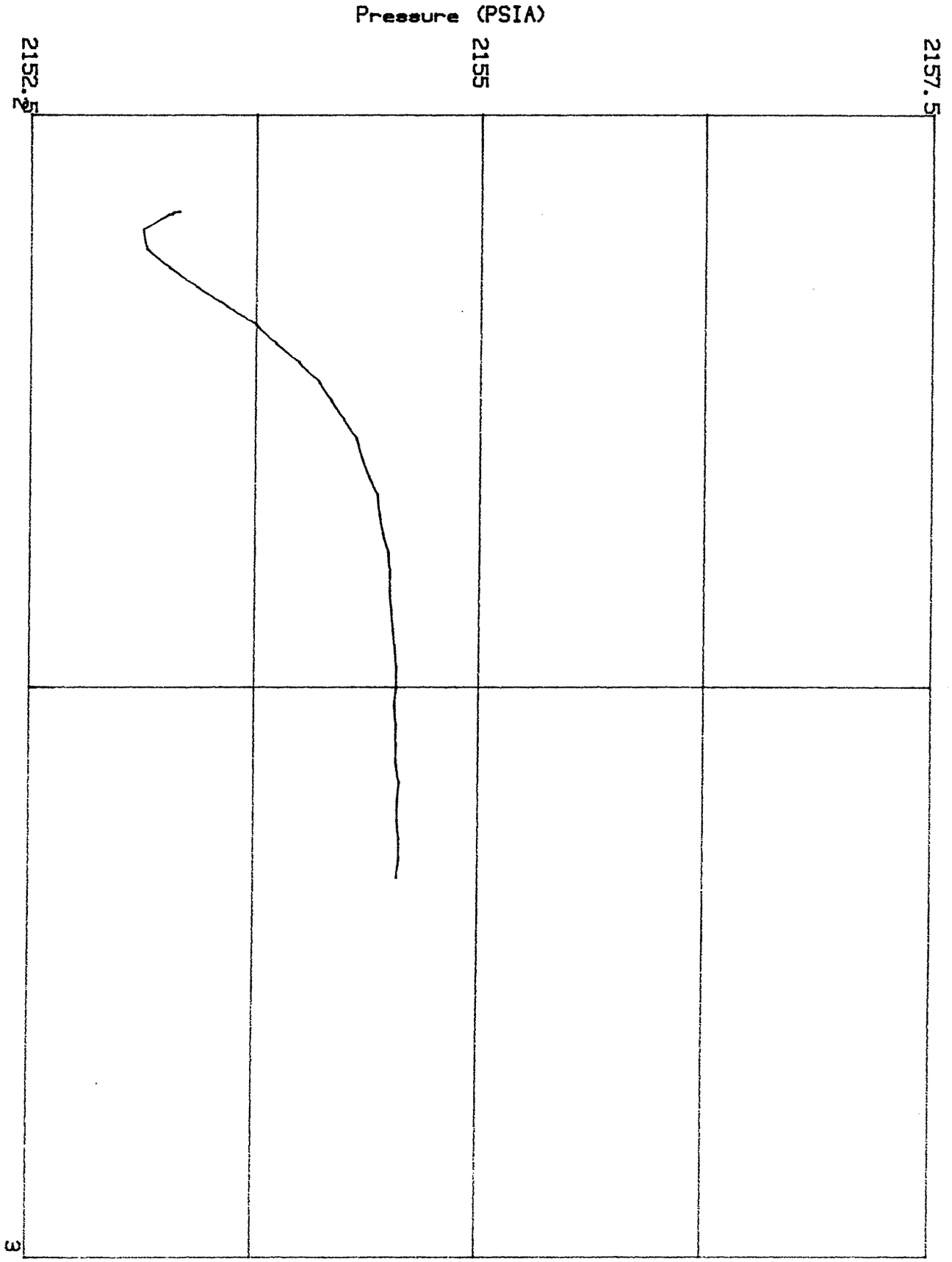
Plotted from: 0 to 20000 (Approx. 2 hrs.)



GEARHART AUSTRALIA - LINEAR PRESSURE PLOT

ESSO AUSTRALIA LIMITED MARLIN A-24

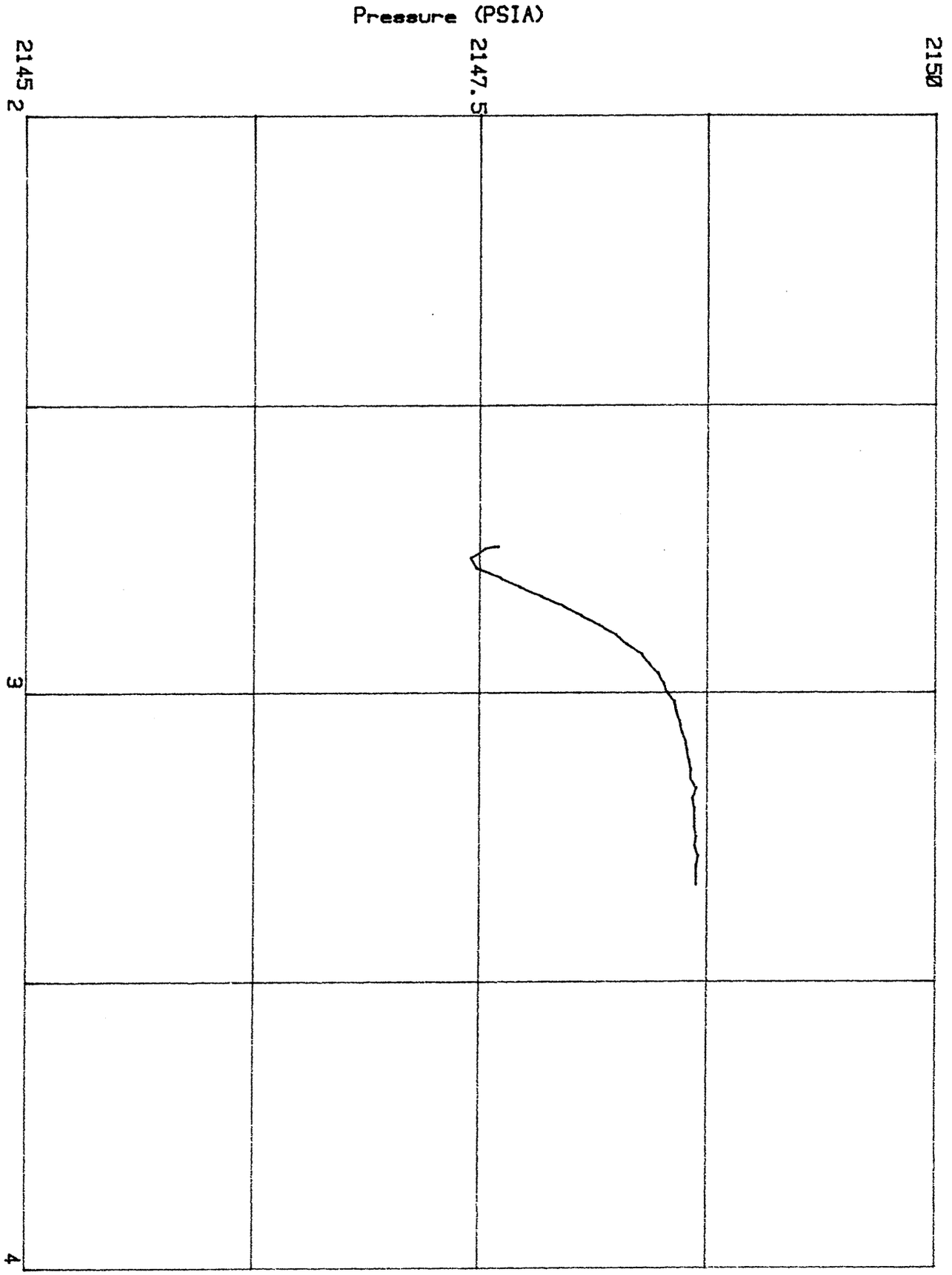
Plotted from: 20000 to 20000 (Approx. 0 hrs.)



GEARHART AUSTRALIA - LINEAR PRESSURE PLOT

ESSO AUSTRALIA LIMITED MARLIN A-24

Plotted from: 20000 to 30000 (Approx. 1 hrs.)



GEARHART AUSTRALIA PTY. LTD.

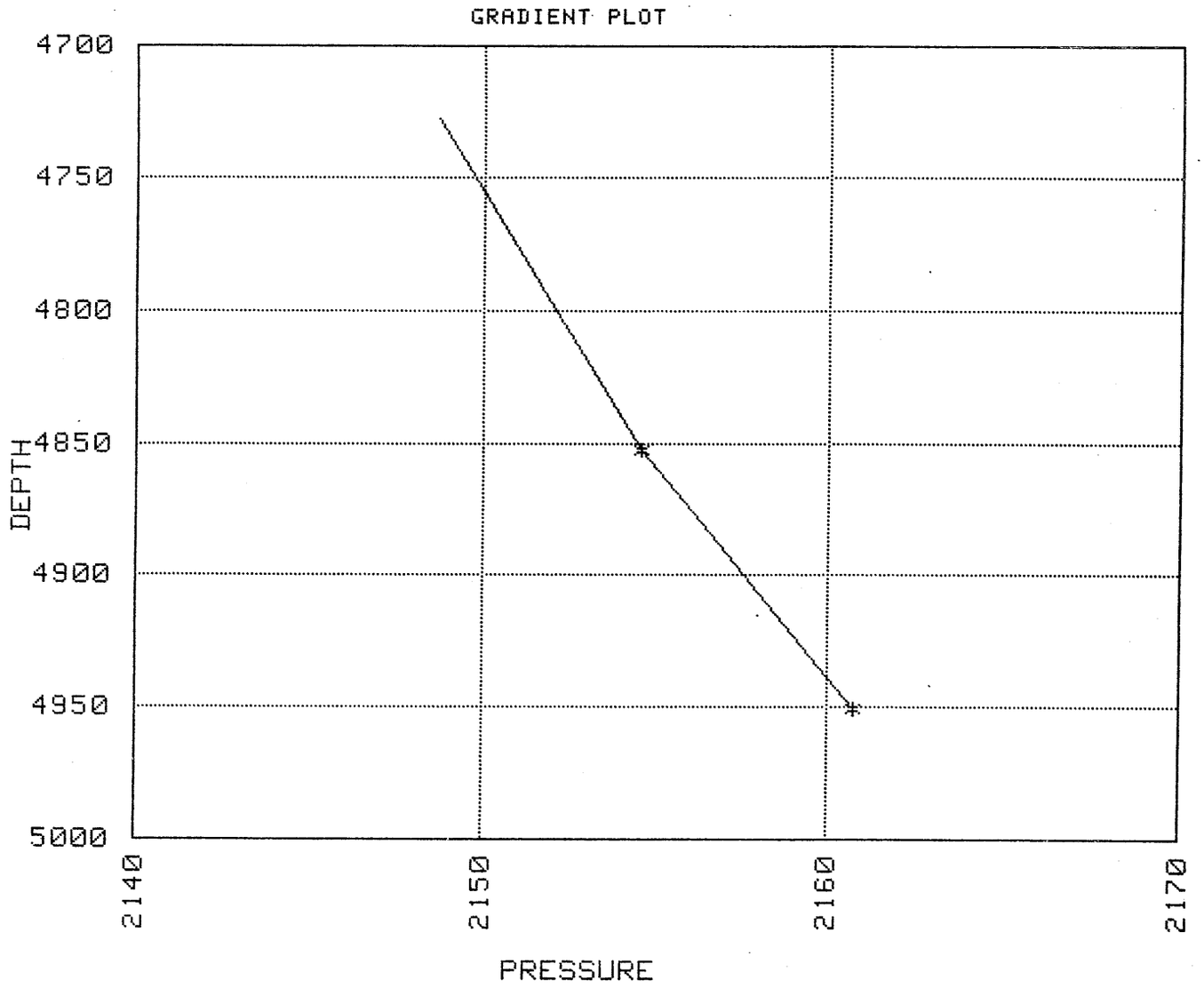
COMPANY..ESSO AUSTRALIA LIMITED STATE...VICTORIA

FIELD....MARLIN WELL....A-24

DATE.....080282

PURPOSE.....STATIC GRADIENTS

ELEMENT.....H.P. SERIAL No...627



DEPTH (TVD)FT		PRESSURE (psia)	GRADIENT (PSI/FT.)
4727.6	1651 m MD	2148.69	
4852.3	1689 m MD	2154.55	.047
4950.7	1728 m MD	2160.70	.062

ENCLOSURES

PE604020

This is an enclosure indicator page.
The enclosure PE604020 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604020 has the following characteristics:

ITEM_BARCODE	= PE604020
CONTAINER_BARCODE	= PE902334
NAME	= Well Composite Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= COMPOSITE_LOG
DESCRIPTION	= Well Composite log (from WCR--enclosure1) for Marlin-A24
REMARKS	=
DATE_CREATED	= 28/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604022

This is an enclosure indicator page.
The enclosure PE604022 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604022 has the following characteristics:

ITEM_BARCODE	= PE604022
CONTAINER_BARCODE	= PE902334
NAME	= Well Completeion log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= COMPLETION_LOG
DESCRIPTION	= Well Completion log (from WCR--enclosure1) for Marlin-A24
REMARKS	=
DATE_CREATED	= 28/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE905648

This is an enclosure indicator page.
The enclosure PE905648 is enclosed within the container PE902334 at this location in this document.

The enclosure PE905648 has the following characteristics:

ITEM_BARCODE	= PE905648
CONTAINER_BARCODE	= PE902334
NAME	= Structure Map
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= SEISMIC
SUBTYPE	= HRZN_CNTR_MAP
DESCRIPTION	= Structure Map on the A-6 Oil Sand Horizon (from WCR--enclosure 2) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/09/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE905649

This is an enclosure indicator page.
The enclosure PE905649 is enclosed within the container PE902334 at this location in this document.

The enclosure PE905649 has the following characteristics:

ITEM_BARCODE	= PE905649
CONTAINER_BARCODE	= PE902334
NAME	= Stratigraphic Section
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= CROSS_SECTION
DESCRIPTION	= Stratigraphic Cross-section Showing Hydrocarbon Distribution in Marlin-Turrum Paleocene (from WCR--enclosure 3) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/09/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604019

This is an enclosure indicator page.
The enclosure PE604019 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604019 has the following characteristics:

ITEM_BARCODE	= PE604019
CONTAINER_BARCODE	= PE902334
NAME	= Induction Electrical Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Induction Electrical Log, 2"" & 5"", (from WCR--enclosure 4) for Marlin-A24
REMARKS	= The scale Changes between shot 1 (1"" = 50') and shot 2 (1"" = 20')
DATE_CREATED	= 16/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604029

This is an enclosure indicator page.
The enclosure PE604029 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604029 has the following characteristics:

ITEM_BARCODE	= PE604029
CONTAINER_BARCODE	= PE902334
NAME	= Formation Density Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Formation Density Log, 1:200, (from WCR--enclosure 5) for Marlin A24
REMARKS	=
DATE_CREATED	= 17/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604032

This is an enclosure indicator page.
The enclosure PE604032 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604032 has the following characteristics:

ITEM_BARCODE	= PE604032
CONTAINER_BARCODE	= PE902334
NAME	= Sidewall Neuron Porosity Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Sidewall Neuron Porosity Log, 1:500,(from WCR--enclosure 6) for Marlin-A24
REMARKS	=
DATE_CREATED	= 17/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604027

This is an enclosure indicator page.
The enclosure PE604027 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604027 has the following characteristics:

ITEM_BARCODE	= PE604027
CONTAINER_BARCODE	= PE902334
NAME	= Induction Electrical Log (IES/TVD)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Induction Electrical Log IESTVD (from WCR--enclosure 8) for Marlin-A24
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604028

This is an enclosure indicator page.
The enclosure PE604028 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604028 has the following characteristics:

ITEM_BARCODE	= PE604028
CONTAINER_BARCODE	= PE902334
NAME	= Formation Log (IDC/GR/TVD)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Formation Log IDC/GR/TVD (from WCR--enclosure 8) for Marlin-A24
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604031

This is an enclosure indicator page.
The enclosure PE604031 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604031 has the following characteristics:

ITEM_BARCODE	= PE604031
CONTAINER_BARCODE	= PE902334
NAME	= Well Site Rock Log/Drilling Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Drilling Log/Well Site Rock Log (from WCR--enclosure 9) for Marlin-A24
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	=
CLIENT_OP_CO	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.

(Inserted by DNRE - Vic Govt Mines Dept)

PE604023

This is an enclosure indicator page.
The enclosure PE604023 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604023 has the following characteristics:

ITEM_BARCODE	= PE604023
CONTAINER_BARCODE	= PE902334
NAME	= Gamma Ray Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Gamma Ray Log (from WCR--enclosure 10) for Marlin-A24
REMARKS	=
DATE_CREATED	= 21/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604024

This is an enclosure indicator page.
The enclosure PE604024 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604024 has the following characteristics:

ITEM_BARCODE	= PE604024
CONTAINER_BARCODE	= PE902334
NAME	= Formation Tester Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Formation Tester Log, Run 2, (from WCR--enclosure11) for Marlin-A24
REMARKS	= Test no. 6
DATE_CREATED	= 24/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604025

This is an enclosure indicator page.
The enclosure PE604025 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604025 has the following characteristics:

ITEM_BARCODE	= PE604025
CONTAINER_BARCODE	= PE902334
NAME	= Formation Tester Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Formation Tester Log, Run 1, (from WCR--enclosure11) for Marlin-A24
REMARKS	= Test no. 1
DATE_CREATED	= 24/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604026

This is an enclosure indicator page.
The enclosure PE604026 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604026 has the following characteristics:

ITEM_BARCODE	= PE604026
CONTAINER_BARCODE	= PE902334
NAME	= Formation Tester Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Formation Tester Log, Run 3, (from WCR--enclosure11) for Marlin-A24
REMARKS	= Test no. 13
DATE_CREATED	= 24/06/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906949

This is an enclosure indicator page.
The enclosure PE906949 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906949 has the following characteristics:

ITEM_BARCODE	= PE906949
CONTAINER_BARCODE	= PE902334
NAME	= Seismic Section of Marlin-A Platform with interpretation
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= Seismic Section of Marlin-A Platform (enclosure from WCR) for Marlin-A24
REMARKS	= Has transparent interpretive overlay
DATE_CREATED	= 31/01/72
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= GEOPHYSICAL SERVICES INTERNATIONAL
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906942

This is an enclosure indicator page.
The enclosure PE906942 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906942 has the following characteristics:

ITEM_BARCODE	= PE906942
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log Data Set
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log Data Sheet/Drilling Rate and Data, sheet 1 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906943

This is an enclosure indicator page.
The enclosure PE906943 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906943 has the following characteristics:

ITEM_BARCODE	= PE906943
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log Data Set
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log Data Sheet/Drilling Rate and Data, sheet 2 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906944

This is an enclosure indicator page.
The enclosure PE906944 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906944 has the following characteristics:

ITEM_BARCODE	= PE906944
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log Data Set
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log Data Sheet/Drilling Rate and Data, sheet 3 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906945

This is an enclosure indicator page.
The enclosure PE906945 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906945 has the following characteristics:

ITEM_BARCODE	= PE906945
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log Data Set
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log Data Sheet/Drilling Rate and Data, sheet 4 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906946

This is an enclosure indicator page.
The enclosure PE906946 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906946 has the following characteristics:

ITEM_BARCODE	= PE906946
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log Data Set
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log Data Sheet/Drilling Rate and Data, sheet 5 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906947

This is an enclosure indicator page.
The enclosure PE906947 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906947 has the following characteristics:

ITEM_BARCODE	= PE906947
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log Data Set
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log Data Sheet/Drilling Rate and Data, sheet 6 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE906948

This is an enclosure indicator page.
The enclosure PE906948 is enclosed within the container PE902334 at this location in this document.

The enclosure PE906948 has the following characteristics:

ITEM_BARCODE	PE906948
CONTAINER_BARCODE	PE902334
NAME	Mud Log Data Set
BASIN	GIPPSLAND
PERMIT	VIC/L3
TYPE	WELL
SUBTYPE	MUD_LOG
DESCRIPTION	Mud Log Data Sheet/Drilling Rate and Data, sheet 7 of 7, (enclosure from WCR) for Marlin-A24
REMARKS	
DATE_CREATED	30/05/73
DATE_RECEIVED	
W_NO	W670
WELL_NAME	MARLIN-A24
CONTRACTOR	EXPLORATION LOGGING
CLIENT_OP_CO	ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604544

This is an enclosure indicator page.
The enclosure PE604544 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604544 has the following characteristics:

ITEM_BARCODE	= PE604544
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (Cover Sheet)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log cover sheet for 6457'-8350' (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604545

This is an enclosure indicator page.
The enclosure PE604545 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604545 has the following characteristics:

ITEM_BARCODE	= PE604545
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (1 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 1 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604546

This is an enclosure indicator page.
The enclosure PE604546 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604546 has the following characteristics:

ITEM_BARCODE	= PE604546
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (2 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log , sheet 2 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604547

This is an enclosure indicator page.
The enclosure PE604547 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604547 has the following characteristics:

ITEM_BARCODE	= PE604547
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (3 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 3 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604548

This is an enclosure indicator page.
The enclosure PE604548 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604548 has the following characteristics:

ITEM_BARCODE	= PE604548
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (4 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 4 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604549

This is an enclosure indicator page.
The enclosure PE604549 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604549 has the following characteristics:

ITEM_BARCODE	= PE604549
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (Cover Sheet)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, cover sheet for 8350'-10988' (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604550

This is an enclosure indicator page.
The enclosure PE604550 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604550 has the following characteristics:

ITEM_BARCODE	= PE604550
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (5 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 5 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604551

This is an enclosure indicator page.
The enclosure PE604551 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604551 has the following characteristics:

ITEM_BARCODE	= PE604551
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (6 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log cover sheet, sheet 6 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604552

This is an enclosure indicator page.
The enclosure PE604552 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604552 has the following characteristics:

ITEM_BARCODE	= PE604552
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (7 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 7 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604553

This is an enclosure indicator page.
The enclosure PE604553 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604553 has the following characteristics:

ITEM_BARCODE	= PE604553
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (8 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 8 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604554

This is an enclosure indicator page.
The enclosure PE604554 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604554 has the following characteristics:

ITEM_BARCODE	= PE604554
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (9 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, sheet 9 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604555

This is an enclosure indicator page.
The enclosure PE604555 is enclosed within the container PE902334 at this location in this document.

The enclosure PE604555 has the following characteristics:

ITEM_BARCODE	= PE604555
CONTAINER_BARCODE	= PE902334
NAME	= Mud Log (10 of 10)
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log , sheet 10 of 10, (enclosure from WCR) for Marlin-A24
REMARKS	=
DATE_CREATED	= 30/05/73
DATE_RECEIVED	=
W_NO	= W670
WELL_NAME	= MARLIN-A24
CONTRACTOR	= EXPLORATION LOGGING
CLIENT_OP_CO	= ESSSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)