WELL COMPLETION REPORT

TURRUM-2

Gippsland Basin, Victoria, Australia

ESSO AUSTRALIA LTD. August, 1974.

WELL COMPLETION REPORT

TURRUM-2

GIPPSLAND BASIN, VICTORIA, AUSTRALIA

ESSO AUSTRALIA LTD.

August, 1974

WELL COMPLETION REPORT

TURRUM-2

GIPPSLAND BASIN, VICTORIA

WELL COMPLETION REPORT

TURRUM-2

LIST OF CONTENTS

SECTION

I	Well Data Record	
II	Initial Production Test	(Not Applicable)
III	Perforating Record	(Not Applicable)
IV	Casing Record	
V	Cement Record	
VI	Subsurface Completion Equipment	(Not Applicable)
VII	Samples, Conventional Cores, Sidewall Cores	
VIII	Wireline Logs and Surveys	
IX	Formation Tops/Zones	
X	Geological Analysis (incl. TABLE 1: Hydrocarbon Zones)	

APPENDICES

1. Sample Descriptions
2. Sidewall Core Descriptions
3. Core Descriptions (Core analysis + petrography - added 21/5/99)
4. Well Log Analysis - additional report added 21/5/99
5. Formation Test Results
6. Palynological and Palaeontological Reports - ~~enclosure added 21/5/99~~
7. Velocity Survey Sheets.

PLATES

I	Structure Map on the A-6 Oil Sand Horizon
II	Structure Cross-Section A-A' (between Marlin A-24 and Marlin-4) at Paleocene Level (Pre-Drill)
III	Structural Cross-Section A-A' (between Marlin A-24 and Marlin-4) at Paleocene Level (Post-Drill)
IV	Well Completion Log
V	Time-Depth Curve

Barad Mud Log 27 parts PE

FIT Data PE906845

Quantitative Log PE603834

ESSO STANDARD OIL (AUSTRALIA) LTD.

COMPLETION REPORT

I WELL DATA RECORD

Date August 26,1974

LOCATION

WELL NAME	STATE	PERMIT or LICENCE	GEOLOGICAL BASIN	FIELD
TURRUM-2	VIC.	VIC./L3	GIPPSLAND	TURRUM PALEOCENE

CO-ORDINATES	Lat.	Long.	X	Y	MAP PROJECTION	GEOGRAPHICAL DESCRIPTION
Surface	38°14'39.436"S	148°14'56.337"E			AMG ZONE 55	1.8m SE of Marlin A Platform. 1.5m WSW of Marlin-4
~~Bottom Hole~~			609,295	5,766,328		

ELEVATIONS & DEPTHS

ELEVATIONS	WATER DEPTH	TOTAL DEPTH	
~~Ground~~	200'	M.D. 8765'	Avg.Angle Straight Hole
KB 32'		T.V.D.	
~~RT~~	PLUG BACK DEPTH	REASONS FOR P.B.	
~~Braden Head~~	295'	ABANDONMENT	
~~Top Deck Platform~~			

DATES

MOVE IN	RIG UP	SPUDDED
June 5, 1974	June 5, 1974	June 5, 1974
RIG DOWN COMPLETE	RIG RELEASED	PROD.UNIT - Start Rigging Up
July 12, 1974	July 12, 1974	
PROD.UNIT - Rig Down Complete		I.P. ESTABLISHED

MISCELLANEOUS

OPERATOR	PERMITTEE or LICENCEE	ESSO INTEREST	OTHER INTEREST
ESSO	B.H.P.	50%	50%

CONTRACTOR	RIG NAME	EQUIPMENT TYPE
GLOBAL MARINE	"GLOMAR CONCEPTION"	FLOATING DRILLING VESSEL

TOTAL RIG DAYS	DRILLING AFE NO.	COMPLETION NO.	TYPE COMPLETION
37.98	234-204		

LAHEE WELL CLASSIFICATION: Before Drilling STEPOUT; After Drilling GAS CONFIRMATION

M. HORDERN
Geologist

WELL

TURRUM-2

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

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

Engineer

WELL

TURRUM-2

IV	CASING - LINER - TUBING RECORD						
Type	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
	KB ELEVATION ABOVE CASING HEAD					223.00	223.00
	24"	PILE JOINT				36.02	259.02
	20"	94#	X-52	CCXJV	ONE	24.65	283.67
	20"	94#	X-52	JV	8 Joints + Float Shoe	300.40	584.07
	KB ELEVATION ABOVE HANGER					228.00	228.00
	13-3/8"	54.5#	J-55	BUTT	51 Joints + Float Joint	2002.56	2230.56
	KB ELEVATION ABOVE HANGER					227.00	227.00
	9-5/8"	47#	N-80	Butt	One Joint + Float Shoe	37.85	264.85
	9-5/8"	47#	N-80	Butt	Casing Hanger + 133 Joints+ F.C.	5088.94	5353.79

V	CEMENT RECORD		
String	20"	13-3/8"	9-5/8"
Type of Cement	650 sx Aust N + 350 Sx Aust N + 2% $CaCl_2$	470 Sx Aust N + 1% $CaCl_2$	450 Sx Aust N + 0.4% HR-4
Number of FT^3	1180	555	531
Average weight of slurry	15.6 ppg	15.6 ppg	15.6 ppg
Cement Top	SEA FLOOR	1225' (Calc)	3726' (Calc)
Casing Tested with		1500 psi	3000 psi
Number of Centralizers	7	10	15
Number of Scratchers			
Stage Collar etc.			
Remarks		Formation tested to 14.0 ppg equivalent	Formation tested to 15.0 ppg equivalent

R.W. Oliver

Engineer

WELL

TURRUM-2

VI SUBSURFACE COMPLETION EQUIPMENT

DATE COMPLETED ______________

Schematic	Equipment Description	Length	Depth

______________ Engineer

WELL TURRUM-2

VII SAMPLES, CONVENTIONAL CORES, SW CORES

INTERVAL	TYPE	RECOVERED	INTERVAL	TYPE	RECOVERED
630-4110 (30' Intervals)	CUTTINGS: i) Washed & dried (5 sets)	) Recovered) every) interval)			
4110-4520' (20' Intervals)	ii) unwashed (1 set)				
4520-8765 (10' Intervals)	iii) Unwashed & canned (1 composite set)	Recovered every 100'			
4882-4894	Core #1	0' (0%)			
5142-5172	Core #2	20' (67%)			
7592-7655	Core #3	63' (100%)			
8523-8529	Core #4	6' (100%)			
8529-8589	Core #5	64' (100%+)			
2300-8745	60 SWC's	50			

VIII WIRELINE LOGS AND SURVEYS Incl. FIT)

Type & Scale	From To	Type & Scale	From To
FDC/GR/Cal 2" & 5"	2248 - 210 GR 2264 - 584 FDC 2259 - 584 Cal.	FIT #8	7624
		FIT #9	7750
		FIT #10	6981
FDC/CNL/GR/Cal 2" & 5"	5404 - 2231 8766 - 5346	FIT #11	8503
		FIT #12	8622
		FIT #13	8581
ISF/Sonic/SP 2" & 5"	2260 - 584 5401 - 2231 8761 - 5346		
Dipmeter (HDT) (10"=100')	5405 - 4100 8766 - 5346		
Velocity Survey	5300 - 2898 (6 levels) 8757 - 5106 (5 levels)		
Dual Caliper 2" & 5"	2259 - 584		
B.G.T. (4 arm cal.)	FAILED		
FIT #1	5171		
FIT #2	5172.5		
FIT #3	5177		
FIT #4	5271		
FIT #5	5089		
FIT #6	8512		
FIT #7	8480		

M. HORDERN
Geologist

WELL TURRUM-2

IX	FORMATION TOPS/Z nes					
NAME	Tops		Gross Interval (ft)	Net Pay (ft).		REMARKS
	M.D.	Sub-sea		Gas	Oil	
GIPPSLAND FM.	232	- 200	4665'	-	-	MIOCENE to RECENT
BASE OF MIOCENE CHANNEL	4492	-4460				
LAKES ENTRANCE FM.	4884	-4852	190'	-	-	OLIGOCENE
LATROBE GROUP: 1) Turrum Fm. (N.asperus)	5074	-5042	10'	-	-	EOCENE
2) Coarse Clastics						
- M.diversus	5084'	-5052'	425'	31'	9'	EOCENE
- U.L.balmei	5509'	-5477'	686'	-	-	
- L. L.balmei	6195'	-6163'	1956'	122'	-	PALEOCENE
- T.longus	8151'	-8119'	614'	113'	26'	PALEOCENE
			8533' Penetrated	266' Gas	35' Oil	TOTALS

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

PRE-DRILL :

Drilled on the flank of an anticline SE of Marlin A Platform, the Marlin A-6 well encountered 41' of net oil in a 300' thick Paleocene sand section. Marlin A-24 also encountered oil in the same sand sequence further west. The continuation of the oil to a depth very similar to that observed in A-6 suggested the presence of a common oil-water contact between the two development wells and across the anticlinal structure. The base of the oil occurred at -8496' TVD in Marlin A-6 and at -8541' TVD in Marlin A-24.

The Turrum-2 well was drilled near the crest of the structure principally to test for the further extent of the Paleocene oil. It was anticipated that the top of the oil sand which was penetrated at -8410' in A-6 would occur 110' higher in Turrum-2 at -8300' so that a major part of the sand would be above the oil-water contact.

Turrum-2 was also designed to test the equivalent of the Paleocene gas sands encountered in both Turrum-1 and Marlin A-6. These were expected to be found at this location at an anticipated depth of -7320'.

POST-DRILL :

Turrum-2 intersected the Latrobe Group at -5042', 142' low to prediction. 10' of Turrum A thin veneer of poorly-sorted greensand interpreted as the Turrum Formation unit of the Latrobe Group was encountered above the Latrobe coarse clastics which were intersected at -5052'. The well penetrated 3691' of interbedded Latrobe siltstones, sandstones, shales and coals before reaching a T.D. of 8765 KB. Three hydrocarbon systems, separated by two water-bearing intervals were recognised and these have been interpreted to contain a total of 266' of net gas sand and 35' of net oil sand. A list of all the hydrocarbon-bearing zones found in the well is attached (Table 1).

In the Latrobe coarse clastics M-1 reservoir, 31' of net gas sand and 9' of net oil sand were logged within a 100' gross column above the oil-water contact. The gas-oil contact was recognised at -5141' and the oil-water contact at -5150'.

In the Paleocene (L.balmei and T.longus) section above the "A-6 oil sand" horizon, five gas bearing zones with no intervening water were logged. Together, these zones contain 144' of net gas sand. This gas zone, anticipated at -7320', came in 208' low at -7528'.

../2

M. HORDERN
Geologist

X (cont') GEOLOGIC ANALYSIS (Pre Drilling prognosis Vs actual results)

The "A-6 oil sand" horizon at the top of a 300' thick sequence of fairly massive sands was encountered at -8375', 75' lower than expected. Log analysis indicates that 73' of net gas sand and 26' of probable oil sand are present with a gas-oil contact at -8473' and an oil-water contact at -8499'. FIT's recovered gas and a 48°-55° API gravity liquid designated only as "Liquid hydrocarbon".

Below the water sand, a second gas-bearing zone is present at -8584' to -8604' containing 18' of net gas sand.

In conclusion, the well confirmed the stratigraphy proposed, but revealed that the large oil volume anticipated to be associated with the "A-6 sands" of the Paleocene section was not present. The sands were not oil-filled on the structural crest, but an oil-leg occurred beneath the gas cap. Thus, it is not oil but gas that makes up most of the hydrocarbon volume of the structure.

M. HORDERN
Geologist

TABLE 1: TURRUM-2 HYDROCARBON ZONES

ZONES M.D.	ZONES Subsea	GAS Gross	GAS Net	OIL Gross	OIL Net	Wtd. Av. Ø (%)
5082-5173	-5050 (1539.2) to -5141 (1567.0)	91	31			28.55
GOC 5173	-5141					
5173-5182	-5141 to -5150 (1569.7)			9	9	27.97
OWC 5182	-5150					
6486-6507	-6454 (1967.2) to -6475 (1973.6)	21	16			22.79
6955-6986	-6923 (2110.1) to -6954 (2119.6)	31	23			22.15
7567-7634	-7535 (2296.7) to -7602 (2317.1)	67	61			21.52
7774-7815	-7742 (2359.8) to -7783 (2372.3)	41	22			22.66
8158-8220	-8126 (2476.8) to -8188 (2495.7)	62	22			19.83
8412-8505	-8380 (2554.2) to -8473 (2582.6)	155	73			19.33
GOC 8505	-8473					
8505-8531	-8473 to -8499 (2590.4)			26	26	16.63
OWC 8531	-8499					
8616-8636	-8584 (2616.4) to -8604 (2622.5)	20	18			16.17
	TOTALS	488	266	35	35	

M Zone

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 1

SAMPLE DESCRIPTION

SAMPLE DESCRIPTIONS

TURRUM-2

C.Ford/M.Hordern
June 7, 1974
0400 hrs.

DEPTH	%	DESCRIPTIONS
630-660	100	Cement Cavings Trace Sand, clear, coarst to granular, subrounded, unconsolidated. Trace Calcarenite, white, fine, calcareous cement Trace Fossil fragments.
660- 690	100	As above
690-720	100	Cement cavings Trace Sand, clear to amber, coarse to granular, subrounded, unconsolidated as above. Trace fossil fragments, forams, bryozoa. Trace Mica, plates of muscovite
720-750	100	As above
750-780	80 20	Cement Cavings Calcarenite, white to grey, very fine to fine,moderate sorting, calcareous cement, contains quartzose silt. Trace Sand, as above Trace fossil fragments, forams, bryozoa, bivalves, gastropods.
780-810		As above
810-840	70 30	Cement Cavings Calcarenite, as above Trace sand, as above Trace fossil fragments, as above
840-870		As above Trace Micrite, white, porcellanous Trace Muscovite
870-900	60 40	Cement Cavings Calcarenite, as above Trace as above
900-930	50 50	Cement cavings Calcarenite, as above Trace Sand, as above Trace Fossil fragments, as above Trace Micrite, as above Trace Muscovite, as above
900-930	50 50	Cement cavings Calcarenite, as above Trace Sand, as above Trace Fossil fragments, as above Trace Micrite, as above Trace Muscovite, as above
930-960		As above
960-990	70 30	Calcarenite, as above Cement cavings Trace as above
990-1020	90 10	Calcarenite, as above Cement cavings Trace as above
1020-1050		As above
1050-1080	100	Calcarenite, as above with quartz grains from silt, coarse sand sized, poor to moderate sorting, subrounded to subangular. Trace as above

SAMPLE DESCRIPTIONS

TURRUM-2

C.Ford/M.Hordern
June 7, 1974

0400 hrs.

DEPTH	%	DESCRIPTIONS
1080-1110	100	Calcarenite, and minor calcareous sandstone, as above Trace Micrite Trace fossil fragments
1110-1140		As above
1140-1170		As above
1170-1200		As above
1200-1230		As above Calcarenite, slightly glauconitic.
1230-1260		As above
1260-1290	90 10	Calcarenite, as above. Fossil fragments, including echinoid spines, forams, bryozal fragments gastropods, bivalves, Trace Micrite, as above Trace Sand, coarse, unconsolidated, as above Trace Glauconite
1290-1320	70 30	Calcarenite, as above Fossil Fragments, as above, predominantly bryozoal fragments. Trace as above
1320-1350	50 50	Calcarenite, as above Fossil Fragments, as above Trace as above
1350-1380		As above Trace Glauconite Trace Marl, soft, grey, calcareous mudstone
1380-1410		As above
1[illegible]-1440	70 30	Calcarenite, as above Fossil fragments, as above
1440-1470	80 20	Calcarenite, as above, slightly glauconitic Fossil fragments, as above
1470-1500	90 10	Calcarenite, as above Fossil fragments, as above Trace Micrite Trace Sand, coarse unconsolidated, quartz grains.
1500-1530	100	Calcarenite, as above Trace Fossil fragments Trace Micrite
1530-1560		As above Trace Marl, slightly silty, brown
1560-1590		As above
1590-1620		As above, no marl
1620-1650		As above
1650-1680		As above
1680-1710		As above
1710-1740		As above

SAMPLE DESCRIPTIONS

TURRUM-2

C.Ford/M.Hordern
June 7, 1974

0400 hrs.

DEPTH	%	DESCRIPTIONS
1740-1770		As above
1770-1800		As above
1800-1830		As above
1830-1860		As above
1860-1890		As above Trace Fossil Fragments, gastropods, bivalves, forams, few bryozoal fragments, echinoids
1890-1920		As above
1920-1950	100	Calcarenite, white to buff coloured, very fine to medium, mainly with some coarse grains, with silt and finer matrix, poor to moderate sorting, subangular to subrounded, some mica, glauconite and dark rock fragments as grains and matrix; some fossil fragments, firm to hard. Trace to 10% fossil fragments, shell and coral and bryozoa fragments, forams.
1950-1980		As above
1980-2010		As above
2010-2040		As above
2040-2070		As above
2070-2100		As above
2100-2130	60 40	Calcarenite, as above Marl, white, calcareous, soft Plus fossil fragments.
2130-2160	100	Marl, white to light grey, calcareous, very soft Minor hard calcarenite and fossils.
2160-2190		As above
2190-2220	100	Marl, white to light grey, calcareous, soft to firm, containing silt and calcareous fragments. Rare grains of hard micrite
2220-2250		As above
2250-2275		As above.

CIRCULATED, THEN COMMENCED TRIPPING OUT AT 1530 HRS, June 7 '74 PRIOR TO LOGGING RUN 1.

BAD WEATHER PREVENTED FURTHER PROGRESS.

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R.Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
		13-3/8" casing @ 2230'
2275-2280		Cement cavings - trace limestone (translucent grains)
2280-2310	20	Marl, light grey, soft, silty, some dark inclusions and some grey to dark grey calcarenite, medium to hard, glauconite? inclusions.
	80	Cement
2310-2340	20	Marl, as above with trace calcarenite
	80	Cement
2340-2370	20	Marl, as above
	80	Cement
2370-2400	25	Marl, white to light grey, very soft, silty.
	75	Cement
2400-2430	10	Siltstone, calcareous, some dark brown (medium grain size) cherts (carbonaceous), dark inclusions.
	40	Marl, as above
	50	Calcarenite, medium grey, moderately soft inclusions, trace white limestone, fossil fragments.
2430-2460	30	Marl, as above
	60	Calcarenite, as above with some limestone inclusions (fossil fragments)
	10	Limestone - micrite, buff, hard and some medium grey limestone.
2460-2490	30	Marl, as above
	65	Calcarenite, as above
	5	Limestone, as above
2490-2520	35	Marl, as above
	65	Calcarenite, fossil fragments, trace limestone.
2520-2550	30	Marl, light grey, very soft to soft, trace hard grey micrite
	70	Calcarenite, moderately hard, medium grey, some fossil fragments and inclusions.
2550-2580	40	Marl, as above
	50	Calcarenite, as above
	10	Micrite, white and grey, hard, and fossil fragments (foram, infilling of shells)
2580-2610	30	Marl, white to light grey, soft, some shell fragments
	70	Calcarenite, as above, some very silty, becoming fissile.
2610-2640	40	Marl, as above
	60	Calcarenite, as above
2640-2670	40	Marl, as above, with interbedded (quartzose?) inclusions.
	60	Calcarenite, large fossil fragments, as inclusions
2670-2700	30	Marl, as above, with some dark inclusions
	70	Calcarenite, medium grey, moderately hard to hard, some becoming fissile, silty.
2700-2730	30	Marl, as above
	70	Calcarenite, as above.
2730-2760	20	Marl, as above
	80	Calcarenite, medium grey, firm to hard, some fissile, silty, trace limestone, fossil fragments.

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
2760-2790	10	Marl, as above
	90	Calcarenite, medium grey, firm, some fissile, slightly sandy.
2790-2820	10	Marl, as above
	90	Calcarenite, medium grey, firm, silty.
		Trace Limestone & fossil fragments
2820-2850	10	Marl, as above
	90	Calcarenite, as above
2850-2880	20	Marl, as above
	80	Calcarenite, as above
2880-2910	20	Marl, as above
	80	Calcarenite, light to medium grey, moderately firm, silty, fissile, fossil fragments.
2910-2940	20	Marl, as above.
	80	Calcarenite, light to medium grey, moderately firm, fissile, silty to slightly sandy, fossil fragments.
2940-2970	20	Marl, as above
	80	Calcarenite, as above (forams)
		Trace Siltstone, brown, firm, some fissile.
2970-3000	10	Marl, as above
	90	Calcarenite, as above
3000-3030	10	Marl, as above
	90	Calcarenite, as above
		Trace Coal, lignite from tank?
3030-3060	30	Marl, light grey, very soft, trace fossils
	70	Calcarenite, as above, some fissile, silty, moderately soft
3060-3090	50	Marl, as above with trace fossils.
	50	Calcarenite, as above, very silty grading to calcareous claystone
3090-3120	30	Marl, white to light grey, very soft, fine grained (quartzose?) inclusions,
	70	Calcarenite, grey, soft to moderately hard, dark inclusions (glauconitic?) very silty, some layering.
		Trace white, hard, micrite.
3120-3150		As above, calcarenite sometimes fissile.
3150-3180	30	Marl
	55	Calcarenite
	15	Micrite, white, hard, dark inclusions
3180-3210	40	Marl, as above tiwth oolites, lignite (from tank)
	60	Calcarenite, as above
		Trace micrite
3210-3240	20	Marl,
	80	Calcarenite, medium grey, some brown, moderately hard to hard, very silty, glauconitic inclusions some fissile.
		Trace fossils.
3240-3270	30	Marl, trace micrite.
	70	Calcarenite, as above some dark grey, very hard, silty.
3270-3300	40	Marl, as above, trace micrite
	60	Calcarenite, medium to dark grey, hard to semi hard, some fossil, very silty.
		Trace fossil.

DEPTH	%	SAMPLE DESCRIPTION
3300-3310	70	Marl, as above
	30	Calcarenite, as above
3310-3330	30	Marl, as above, trace white micrite
	70	Calcarenite, as above
3330-3360	10	Marl
	90	Calcarenite, as above, glauconitic inclusions
3360-3390	10	Marl
	90	Calcarenite, as above, large fossil fragment inclusions
3390-3420	20	Marl, trace fossil fragments, foram.
	80	Calcarenite, as above, very silty, gritty, some fissile.
3420-3450	20	Marl, as above with forams
	80	Calcarenite, as above, dark inclusion. Trace, hard, grey, micrite.
3450-3480	10	Marl, as above
	90	Calcarenite, light grey to dark grey, moderately firm to firm, dark inclusions, silty.
3480-3510	20	Marl, as above with medium grain inclusions
	80	Calcarenite, as above with fine to medium grained inclusions
3510-3540	30	Marl, as above
	70	Calcarenite, as above, with large fossil fragment inclusions, some fissile, silty.
3540-3570	30	Marl, as above
	70	Calcarenite, as above
3570-3600	20	Marl, as above, soft - semi firm.
	80	Calcarenite, as above
3600-3630	50	Marl, as above
	50	Calcarenite, as above
3630-3660	20	Marl, as above
	80	Calcarenite, as above
3660-3690	20	Marl, as above, light grey, very fine with medium grained inclusions, soft to very soft.
	80	Calcarenite, as above, medium grey, firm, some fissile, silty to medium grained inclusions, some fossil.
3690-3720	10	Marl
	60	Calcarenite, white to medium grey, firm, silty, medium grained inclusions.
	30	Micrite, grey, hard, fissile, grading to calcareous shale.
3720-3750	20	Marl, as above, medium grain size inclusions
	60	Calcarenite, as above, with white calcarenite with abundant dark medium grained inclusions.
	20	Micrite, as above
3750-3780	30	Marl, as above
	70	Calcarenite, medium grained with some inclusions, plus white to light grey, abundant dark medium grained inclusions.
3780-3810	10	Marl, white to light grey, very soft, inclusions
	90	Calcarenite, 50% grey, moderately hard as above and 40% white to light grey, abundant dark inclusions, very hard to hard, medium grain size. Trace micrite as above.
3810-3840	20	Marl, as above, trace forams
	80	Calcarenite, grey, few inclusions, some fissile, medium to firm. Plus white to light grey, abundant inclusions subangular to subrounded.

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellig

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
3840-3870	10	Marl
	90	Calcarenite, white to light grey, abundant inclusions, medium grained, subangular to subrounded, glauconitic, friable, some fissile, grey calcarenite.
3870-3900	90	Calcarenite, 60% light grey to grey as above, medium grained inclusions, subangular to subrounded, friable. 30% grey, few inclusions (finer grained) tending to calcilutite.
	10	Marl + Micrite, Marl as above, Micrite, pale yellow brown, hard fissile.
3900-3930	20	Marl, light grey, very soft, medium grained inclusions, trace fossils.
	60	Calcilutite / Calcarenite, grey, some light grey, few inclusions.
	20	Calcarenite, light grey to grey as above
3930-3960	50	Marl, (trace coal? Baroid mud lignite)
	30	Calcilutite/Calcarenite
	20	Calcarenite, as above, abundnat inclusion including glauconite.
3960-3990	90	Marl, as above to coal
	10	Calcilutite/Calcarenite, as above
3990-4020	90	Marl, as above
	10	Mainly calcarenite some calcilutite
4020-4050	80	Marl, trace lignite
	20	Calcarenite/Calcilutite, mainly calcarenite, white, abundant dark inclusions calcilutite grey, fewer inclusions.
		POH @ 4074' - CHANGE BIT
		5 UNITS GAS BACKGROUND.
		20 UNITS TRIP GAS
4050-4080	30	Marl, white, emdium grained inclusions, very soft, sticking.
	60	Calcarenite, buff to light grey, abundant dark inclusions, friable.
	10	Calcareous Shale, grey, moderately firm, grading to calcareous claystone where not fissile (silty calcilutite). Trace lignite.
		Shale density 2.27 Calcarenite 2.37.
4080-4110	20	Marl, as above, inclusions, medium grain, calcareous, grains and carbonaceous matter.
	50	Calcarenite, as above, soft
	30	Calcareous shale to calcareous claystone, as above. Trace lignite.
4110-4120	20	Marl
	60	Calcarenite, as above, glauconite, firm
	20	Calcareous Shale
4120-4140	20	Marl
	70	Calcarenite
	10	Shale, calcareous, as above. Trace lignite
4140-4160	20	Marl, as above with fossils (forams)
	70	Calcarenite, as above, firm, white to buff to light grey, abundant inclusions, including glauconite.
	10	Salcareous Shale, grey, moderately firm.
4160-4180	10	Marl, as above
	30	Calcarenite, as above
	60	Shale, as above
4180-4200	70	Marl, white to light grey, very soft, sticky, medium grained inclusions.
	30	Shale, grey, calcareous, moderately firm and some calcarenite, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, K. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellis

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
4200-4220	40	Marl
	30	Calcarenite, as above, glauconite.
	30	Shale, calcareous grading to calcareous siltstone
4220-4240	50	Marl, light grey, very soft, glauconitic.
	20	Calcarenite, buff to white, firm, glauconite , grey micrite, inclusions some without inclusions.
	30	Shale, moderately soft, calcareous, glauconitic
4240-4260	50	Marl, as above
	10	Calcarenite, as above
	20	Shale, as above
	20	Calcareous siltstone, light grey to grey, medium firm.
4260-4280	70	Marl, as above, medium to coarse grained inclusion, trace lignite
	10	Calcarenite, as above with large coarse grained glauconitic inclusions.
	20	Shale, and siltstone, calcareous some fossil fragments
4280-4300	80	Marl, as above, numerous fossils
	20	Calcarenite, shale, Calcarenite, abundant glauconite, some grey hard calcilutite.
4300-4320	100	Marl, poor sample quality. Traces calcarenite, as above, shale.
4320-4340	100	Marl, as above Traces calcarenite, glauconite, fossil as above
4340-4360	100	Marl, as above Traces calcarenite, as above, forams, shale.
4360-4380	100	Marl, as above Traces calcarenite, as above, forams, shale
4380-4400	100	Marl, as above, large amount of inclusions, micrite, forams and shale Trace calcarenite as above, lignite
4400-4420	100	Marl, as above Trace calcarenite - silty
4[illegible]-4440	100	Marl, as above, very silty and inclusions as above Trace calcarenite
4440-4460	100	Marl, as above Trace calcarenite, lignite.
4460-4480	90	Marl, white to light grey to brown, very soft, fissile, very silty, inclusions - forams, glauconite, fossil (shell fragments) shale.
	10	Calcarenite, medium grey, moderately firm, some fissile, silty. Trace lignite.
4480-4500	100	Marl, as above Trace calcarenite, as above
4500-4520	90	Marl, as above
	10	Calcarenite - as above
4520-4530	90	Marl, as above, still poor sample quality
	10	Calcarenite, as above
4530-4540	90	Marl, as above
	10	Calcarenite, as above, fine to medium grained inclusions.
4540-4550	85	Marl, as above
	15	Calcarenite, as above, silty
4550-4560	80	Marl, as above
	20	Calcarenite, as above, hard. Trace lignite

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bel
C. Ford, A. Svalb
L. Brooks L. Elli

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
4560-4570	100	Marl, white to light grey, very soft, inclusions - silty - medium grained. Trace calcarenite, medium grey, semi hard, silty, some medium grained inclusions, fissile
4570-4580	90 10	Marl, as above, some fossil Calcarenite, as above
4580-4590	50 50	Marl, as above Calcarenite, (i) medium grey, as above mainly (i), (ii) light grey, medium inclusions, hard.
4590-4600	50 50	Marl, as above Calcarenite/Calcilutite, medium to dark grey, fine to medium grained inclusions, moderately firm, fissile, silty.
4600-4610	90 10	Marl, as above, fossil, glauconite. Calcarenite/Calcilutite, as above Trace pyrite
4610-4620	90 10	Marl, light grey, very soft, sticky, silty fossil, trace pyrite, lignite. Calcilutite, grey, silty, grading to calcareous shale
4620-4630		As Above
4630-4640	100	Marl, as above, trace calcareous shale
4640-4650		As above with pyrite.
4650-4660	100	Marl, light grey, very soft, abundant lignite (from mud), some shale grey calcareous.
4660-4670		As above, shale, fine to medium grained
4670-4680		As above
4680-4690		As above
4690-4700	90 10	Marl, as above, fossils, pyrite (trace lignite) Shale, grey, calcareous, moderately firm.
4700-4710		As above, trace lignite.
4710-4720	80 20	Marl, as above, fossiliferous. Shale, grey, calcareous, moderately firm. Trace calcarenite, white to light grey to medium grey, firm. Trace pyrite.
4720-4730	70 30	Marl, as above Shale, calcareous, as above Trace lignite, pyrite.
4730-4740	50 50	Marl, as above with abundant fossils - foram, Ooids. Shale, grey, calcareous, soft - grades to calcarenite, silty, glauconitic. Trace buff, calcarenite, hard, dark inclusions.
4740-4750	40 60	Marl, white, soft Abundant lignite. Shale, as above
4750-4760	30 70	Marl, abundant fossils Shale, grey, calcareous, soft, some lignite. Trace calcarenite, white, firm, medium grained.
4760-4770	20 80	Marl, as above Shale, as above
4770-4780	40 60	Marl, as above Shale, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellic

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
4780-4790	30	Marl, fossils, lignite
	70	Shale, firm, fissile, as above
4790-4800	40	Marl, as above, abundant fossils.
	60	Shale, firm, some medium grained inclusion, as above
4800-4810	40	Marl, as above
	60	Shale, as above
4810-4820	30	Marl, as above, abundant fossils - forams, glauconite.
	70	Shales, as above
		Trace calcarenite - white, very hard, medium grained.
		Trace pyrite.
4820-4830	50	Marl, as above
	50	Shale, as above
4830-4840	90	Marl, as above
	10	Shale, as above
4840-4850		As above, trace lignite.
4850-4860	80	Marl, light grey, very soft.
	20	Shale, grey, calcareous, soft, fine to medium grained size inclusions (quartzose?) and dark (carbonaceous?) inclusions.
4860-4870	90	Marl, as above, medium grained inclusions.
	10	Shale
4870-4880	50	Marl
	50	Shale, grey and green (glauconite), calcareous, soft.
		Last Sample 4880'
		POH @ 4882' to run Core #1.
		Cut 12 feet, Recovered 0 feet.
		Core #1 4882-4894' (soft formation, cored very slowly, washed away?)
		25 units trip gas.
-4900	90	Shale, grey and green, mostly grey, calcareous, moderately firm, some green calcareous, moderately firm,
	10	Marl
		Trace fossil fragments.
4900-4910	90	Shale, grey as above
	10	Marl and calcarenite, calcarenite white to buff, grains clauconitic, plus dark inclusions. Abundant fossil fragments/calcite.
4910-4920	60	Shale, grey, calcareous, moderately firm to firm
	40	Marl, light grey, very soft, abundant medium grained calcareous inclusions
		Abundant fossils, trace calcarenite as above
4920-4930	60	Shale, as above with some calcareous siltstone, fossil inclusions
	40	Marl, abundant fossils
4930-4940		As above
4940-4950	60	Shale, grey, calcareous, moderately firm, medium to coarse grained, glauconitic.
	40	Marl, as above
		Some calcarenite as above grading to calcareous siltstone.
		Abundant fossil fragments.
4950-4960	60	Shale, as above
	40	Marl, as above
		Some calcarenite, as above, abundant fossil fragments, mineral fluorescence.

D. Maughan, R.Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
4960-4970	50	Shale, as above
	50	Marl, as above
		Trace calcarenite, pyrite, glauconite, abundant fossil fragments.
4970-4980	40	Shale, as above
	60	Marl, as above
		Trace calcarenite, pyrite, grains glauconite, mineral fluorescene, fossil fragments.
4980-4990	60	Shale, medium grey, calcareous, firm to soft, fissile, silty, some medium grained inclusions.
	40	Marl, white to light grey, very soft, sticky, abundant fossil fragments, some mineral fluorescence, forams, shells and quartz.
		Trace pyrite and glauconite grains, coal.
4990-5000	40	Shale, as above
	60	Marl, as above
		Trace pyrite, glauconite, coal, calcarenite, mineral fluorescence, abundant fossil fragments, forams, belemnite, bryozoans, shells.
5000-5010	40	Shale, as above
	60	Marl, as above, abundant fossil fragments.
		Trace pyrite, coal, calcarenite, mineral fluorescence, medium grained inclusions, glauconite, quartz, fossil fragments.
5010-5020	40	Shale, as above
	60	Marl, as above, firming up slightly
		Trace pyrite, and quartz, glauconite, quartz grains, fossil fragments, calcarenite, white to light grey, medium grained inclusions, glauconite quartz, fossils.
5020-5030	30	Shale, as above
	70	Marl, as above, very soft
		Trace pyrite, quartz, glauconite, coal, fossil fragments.
		Calcarenite, faint mineral fluorescence.
5030-5040	40	Shale, as above
	60	Marl, as above
		Trace pyrite, quartz, glauconite, coal, fossil fragments.
5040-5050		As above but inclusions in quartz grains - small.
		DRILLING BREAK
5050-5060	60	Sandstone, medium to coarse grained, subangular to subrounded, some milky quartz, no fluorescence, glauconite, some calcareous glauconitic siltstone poorly sorted,
	30	Shale, grey, moderately firm, calcareous
	10	Marl, as above
		Trace coal, brown to black, subconchoidal fracture, not very mature.
5060-5070	10	Sandstone, as above glauconitic, with siltstone, trace pyrite
	40	Shale, as above
	10	Calcarenite, as above, glauconite, mineral fluorescence.
	30	Marl, as above.
	10	Coal, as above
5070-5080	60	Sandstone, medium to coarse grained, glauconite, pyritic, subangular to subrounded.
	30	Shale, as above
	10	Coal, as above
MINERAL FLUORESCENCE ONLY.		GAS 770U Hot wire. 85000 - C_1 7200 - C_2 4200 - C_3 1600 - C_4 100 - C_5
		Some calcarenite (mineral fluorescence) + fossils.

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R.Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5080-5090	60	Sandstone, as above, very pyritic, some very coarse milky quartz with pyrite, glauconite on surface.
	10	Shale
	10	Coal, as above
	20	Marl
		Trace calcarenite.
5090-5098	60	Sandstone, as above, mineral fluorescence, very slow cut, plus pale yellow fluorescence.
	30	Marl, as above
	10	Coal, as above
		Trace calcarenite.
		Getting problems with mudstone in flowline, grey, soft and sticky mud interbedding? with sandstone.
5098-5100	30	Sandstone, medium to coarse grained, as above, pyritic, glauconitic.
	30	Shale, grey, soft to moderately firm, calcareous
	20	Marl, grey, calcareous, soft, trace glauconite, calcarenite.
	20	Mudstone, buff, non calcareous, soft, sticky, laminated with dark brown layers.
5100-5110	20	Sandstone, medium grained quartz, subrounded, glauconitic, abundant pyrite.
	10	Some fine grained sandstone and siltstone, buff carbonaceous laminae,
	30	Some white to buff mudstone, as above, slightly calcareous.
	20	Coal, black, subconchoidal to conchoidal, silty.
	20	Shale, as above.
		Minor fluorescence only, no cut. 900 units. C_1 70,000, C_2 5000. C_3 2600, C_4 1000, C_5 600. 5110'
5110-5120	100	Coal, bleading gas, as above.
5120-1530	20	Siltstone, brownish grey, non calcareous, some carbonaceous laminae, trace medium to coarse grained quartz.
	30	Shale, grey, calcareous, moderately firm.
	30	Mudstone, white, calcareous
	20	Coal, silty
5130-5140	90	Shale, as above
	10	Coal, siltstone, and quartz as above
		Stopped at 5142' circulated and conditioned hole prior to POH to run CORE # 2.
		CUT 30' RECOVERED 20'
		Reaming rathole.
-5170	60	Shale, as above, glauconite, some very calcareous, mineral fluorescence
	20	Coal, as above
	10	Mudstone, buff to tan, some laminae
	10	Sandstone, fine to medium grained, subangular to subrounded, pyrite, no fluorescence, some grains quartz, medium to coarse grained, subangular, glauconite.
5170-5180	10	Siltstone, white to tan, glauconite, trace coarse quartz.
	50	Shale, grey, glauconite, micaceous, some mudstone.
	10	Coal, black, conchoidal fracture, some silty, brown to black coal.
	30	Sandstone, fine to coarse grained, pyritic, glauconitic, no fluorescence.
5180-5190	40	Coal, black as above, layers pyritic, bleeding gas, trace amber.
	30	Sandstone, medium to coarse grained, subangular to rounded, glauconite some glauconitic siltstone, pyritic.
	30	Shale, light grey, moderately firm, calcareous, glauconitic.
		Trace claystone, as in Core #2.

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R.Bell
C.Ford, A. Svalbe
L. Brooks L.Elliot

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5190-5200	80	Coal, as above, very silty grading to carbonaceous red formation siltstone.
	10	Shale, as above
	10	Sandstone, fine to medium grained.
		Trace glauconitic mudstone
5200-5210	70	Coal, as above
	10	Siltstone, red to brown, carbonaceous.
	10	Shale, as above
	10	Sandstone, as above, fine grained, glauconitic, abundant pyrite.
5210-5230	60	Shale, abundant pyrite, finely disseminated, pyrite plus carbonaceous material, as above.
	20	Siltstone, carbonaceous streaks, glauconite, trace white soft mudstone.
		Trace Sandstone, fine to coarse grained, poorly sorted, as above
	20	Coal, as above
5230-5240	10	Siltstone, buff to red brown, as above
	40	Shale, as above
	40	Coal, as above
		Abundant quartz grains, fine to coarse, glauconitic, pyritic
	10	Mudstone, white, very soft.
5240-5250	40	Coal, as above
	30	Glauconite, calcareous shale, as above, pyritic
	30	Siltstone, as above
		Trace quartz, mudstone
5250-5260		As above
5260-5270	20	Siltstone, as above
	70	Shale, as above
	10	Coal, as above
5270-5280	30	Sandstone, fine to medium grained, subrounded, pyritic
	10	Siltstone, as above
	40	Shale, light grey, calcareous, as above, medium grained inclusions, glauconite, quartz.
	20	Coal, as above
		Trace mudstone.
5280-5290	60	Sandstone, as above
	10	Siltstone, as above
	10	Shale, as above
	20	Coal, as above
5290-5300	20	Sandstone, as above, pyritic, glauconite
	20	Siltstone, as above
	30	Shale, as above
	30	Coal, as above
5300-5310	30	Coal, as above
		Caving - coral stem
	30	Siltstone, as above
	40	Shale, as above
		Trace sand, mudstone
5310-5320	60	Shale, as above
	20	Siltstone, as above
	10	Mudstone, as above
	10	Coal, as above
5320-5330	90	Shale, as above
		Trace siltstone, as above, with carbonaceous inclusions.
	10	Coal, as above
		Trace mudstone, as above, pyrite, glauconite.
5330-5340	20	Siltstone,
	60	Shale
	20	Coal
		Trace mudstone, pyrite glauconite, quartz

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bel
C. Ford, A. Svalb
L. Brooks L. Elli

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5340-5350	30	Siltstone, as above
	30	Shale, as above
	40	Coal, as above
		Trace sandstone and mudstone, abundant fine grained pyrite.
5350-5360	10	Sandstone, fine grained, pyritic, fine grained cemented, fine grained subrounded, well sorted, no fluorescence.
		Trace medium to coarse glauconite, subrounded.
	30	Siltstone, as above
	40	Shale, as above, plus trace glauconitic calcarenite, caved.
	10	Coal, as above
	10	Mudstone, as above
5360-5370	10	Sandstone, as above, pyritic
	10	Siltstone, as above
	50	Shale, as above, glauconite
	20	Coal, as above
	10	Mudstone, as above
5370-5380	60	Sandstone, medium to coarse grained, medium grained, well sorted, subrounded to subangular, grains cemented.
	20	Shale, as above
		Trace siltstone, as above
	10	Mudstone, as above, slightly calcareous
	10	Coal
		Trace pyrite, glauconite.
5380-5390	80	Sandstone, as above
	10	Shale, as above
	10	Siltstone, as above
		Trace Coal, trace mudstone, trace pyrite
5390-5400	90	Sandstone, fine to medium grained, poorly sorted, as above
	10	Shale, pyrite, as above
		Trace siltstone, carbonaceous, as above
		Trace mudstone, as above
		Trace coal, as above, trace glauconite
5400-5410	60	Sandstone, fine to coarse, mainly fine, clay choked, very faint fluorescence, no cut, no porosity and permeability, mineral fluorescence.
	10	Siltstone, as above
	20	Shale, calcareous, light grey to grey, non calcareous trace.
	10	Coal, as above, bleeding gas
		Circulated to condition hole to POH to run Electric logs.
5410-5420	70	Coal, black, subconchoidal fracture, grading to very carbonaceous pyritic, siltstone in part.
	30	Siltstone, buff to light grey, calcareous, slightly carbonaceous, very argillaceous occasionally brown.
		Occasionally very coarse grained quartz fragments, angular
5420-5430	20	Coal, as above
	20	Siltstone, medium to dark brown, carbonaceous laminae, micaceous, non calcareous.
	40	Siltstone - Mudstone, buff to light grey, as above
	20	Sandstone, clear to milky quartz, in light to medium brown argillaceous matrix, glauconite, pyrite, tight.
5430-5440	10	Coal, as above
	50	Siltstone, medium to dark brown, as above.
	20	Sandstone, medium to very coarse grained, clear quartz, dolomitic cement pyritic cement, carbonaceous fragments, subangular to subrounded, often loose grains, poor sorting, tight when in aggregate.
	20	Siltstone - Mudstone, light grey to brown, calcareous as above

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R.Bel
C.Ford, A. Svalb
L. Brooks L.Elli

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5440-5450	5	Coal, as above
	15	Shale, dark brown, carbonaceous as above
	20	Sandstone, as above often loose grains plus coarse grains, occasional glauconitic grains, tight.
	10	Sandstone, fine to medium to coarse grained, subangular to angular, clear to milky quartz, in a medium grey to brown, tight, very calcareous shale matrix. Rare light blue fluorescence with no cut in dolomitic sandstone.
	50	Mudstone - siltstone, light grey to buff to light brown, calcareous light grey very calcareous.
5455	90	Coal, as above
	10	Shale, medium to dark brown, carbonaceous. medium to soft
		700 units gas.
5450-5460	60	Coal, as above, pyrite
	30	Shale, medium to dark brown, carbonaceous, as above, micaceous lignitic medium to soft,
	10	Siltstone - mudstone, light grey to buff, soft, calcareous as above. occasional coarse quartz grains as above.
		Gas background 10 units.
5460-5470	50	Coal, as above
	30	Shale, medium brown, as above
	20	Shale, light grey to buff, medium soft to medium hard, grading to siltstone in part, calcareous, occasionaly finely carbonaceous
	<5%	loose quartz grains angular to subangular, fine to coarse grained.
5470-5480	90	Shale, light grey to buff, occasionally mottled grading to Siltstone in part, medium soft to medium hard, very finely disseminated carbonaceous matter, rarely glauconitic, generally sub-fissile, blocky, calcareous. esplite grey, less carbonaceous shale.
	5	Coal, as above
	5	Sandstone, generally loose grains, as above, occasionally with calcareous siltstone cement. Rare foram caving Occasional brick-red shale fragments
5482'		Bottoms Up Sample 25% Coal, as above
		50 Units gas kick 25% Sandstone, loose grains, clear quartz, subangular-subrounded, very fine-fine grained, occasionally medium grained, fair sorti No fluorescence, 50% Shale, as above
		50 Units gas kick 7489' Coal?
5480-5490	90	Shale, as above
	10	Sandstone, white to light grey, very fine to fine grained aggregates. CO_3 cement, subangular to subrounded, poor to fair sorting, tight with loose grains ranging to medium grained. No fluorescence Trace coal
5490-5500	90	Shale, as above, mostly buff-light brown coloured, medium soft, calcareous
	10	Sandstone, aggregates, as above, with loose subangular to subrounded grains to CO size. No fluorescence, rare mineral fluorescence Trace Coal
5500-5510	75	Shale, as above
	25	Sandstone, as above
	<5	Coal
5510-5520	80	Shale, as above
	20	Sandstone, silty to fine grained, as above
5520-5530	80	Shale, light grey, light brown to medium brown, subfissile, medium soft in part grading to Siltstone, medium hard. Calcareous, occasional fine carbonaceous laminae or finely disseminated carbonaceous matter

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C.Ford, A. Svalbe
L. Brooks L.Ellip

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5520-5530 (cont')	20	Sandstone, white to light grey, very fine to fine grained, silty, occasional medium coarse grained, subangular to subrounded, poor to fair sorting, CO_3 and pyritic cement, tight. No shows Trace Coal
5530-5540	80	Shale, as above, except higher % is silty
	20	Sandstone, as above, with occasional coarse to very coarse, angular to sub-angular grains set in dark brown sideritic? cement
5540-5550	25	Coal, black, with very carbonaceous shale laminae
30 units	60	Shale, buff-medium brown, as above, slightly glauconitic
gas @ 5550	15	Siltstone, buff, with very fine grained sandstone grains, approx. 25% glauconite grains, dolomitic? cement.
5550-5560	30	Siltstone, glauconitic sandy, very fine grained glauconite grains, angular to subrounded. CO_3 cement
	70	Shale, as above, firm to moderately hard, carbonaceous in part
5[illegible]'		80 Units Gas Coal, trace carbonaceous-coaly shale, black, conchoidal fracture, pyritic, occasionally shaley laminae.
5560-5570	100	Coal, as above
5580'		65 Units Gas
5570-5580	85	Shale, dark grey to black, very carbonaceous-coaly, firm, silty in part, micaceous, slightly pyritic
	15	Coal, as above
5580-5590	80	Shale, as above, occasionally buff to medium brown with less carbonaceous matter
	15	Coal, as above
	5	Sandstone, buff to dark grey, very fine to fine grained, silty, poor sorting carbonaceous grains, subangular-subrounded, calcareous matrix, tight.
5590-5600	10	Shale, as above
	5	Coal, as above
	85	Sandstone, light grey, very fine to fine grained, fair sorting, subangular to subrounded, calcareous cement, tight, occasional carbonaceous grains, rare glauconite? grains
5600-5610	50	Sandstone, as above, pyritic
	50	Shale, buff to dark brown, occasionally black grading to siltstone, pyritic, micaceous, carbonaceous laminae and grains Trace coal
5610-5620	60	Shale, as above, very finely interlaminated, medium soft, non-calcareous to occasionally slightly calcareous
	40	Sandstone, as above
5620-5630	100	Coal
5630-5640	30	Coal
	65	Shale, as above
	5	Sandstone, as above
		50 Units gas @ 5643' Coal? Sample 90% Shale, 5% Coal, 5% Sandstone
5640-5650	95	Shale, as above
	5	Sandstone, as above, white to light brown, very fine to fine grained, silty, tight, calcareous cement
5662'		75 Units Gas kick Coal 15% Coal, 75% Sandstone, as below, carbonaceous

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5650-5660	5	Coal
	10	Shale, as above
	85	Sandstone, white to light grey, very fine to fine grained, silty, subrounded, fair to poor sorting, with carbonaceous laminae, calcareous cemented, tight, and finely disseminated carbonaceous grains, pyritic. No Fluorescence
5660-5670	65	Sandstone, as above
	35	Shale, as above
		Minor Coal
		100 Units @ 5678' Coal
5670-5680	35	Coal, as above
	30	Shale, as above, more brown to dark grey, carbonaceous to coaly
	35	Sandstone, as above
5680-5690	15	Coal
	50	Shale, as above
	35	Sandstone, very fine grained grading to Siltstone, as above
		75 Units @ 5695' Coal
5690-5700	70	Coal
	20	Shale, as above
	10	Sandstone, as above
5705'		125 Units Gas Coal
5700-5710	50	Coal
	30	Shale, as above
	20	Sandstone, grading to siltstone, as above
5710-5720	25	Coal
	60	Shale, buff-dark brown, silty in part, micaceous, carbonaceous laminae and disemminated, medium soft to medium hard, pyritic
	15	Sandstone, white, light grey to buff, very fine to fine grained, silty, carbonaceous in part, pyritic, calcareous
5720-5730	85	Shale, as above
	5	Coal
	10	Sandstone, as above
5730-5740	85	Shale, as above
	10	Sandstone, as above
	5	Coal, as above
5740-5750	30	Sandstone, as above with loose angular to subangular medium to very coarse grained quartz
	55	Shale, as above
	15	Coal
5750-5760	5	Coal
	80	Shale, as above
	15	Sandstone, as above, with some medium to very coarse angular to subangular clear and milky quartz in a hard fine grained matrix, non-calcareous?
5760-5770	5	Coal
	80	Shale, as above
	15	Sandstone, as above, with loose quartz grains common
5770-5780	35	Coal
	45	Shale, brown, dark brown, black, carbonaceous, micaceous
	20	Sandstone, white to light grey, very fine to fine grained aggregates, as above mostly loose grains, subrounded very fine to fine grained, probably uncemented porosity

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R.Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5780-5790	40	Coal
	30	Shale, as above
	30	Sandstone, loose grains, very fine to fine grained, occasional medium grains, as above, fair sorting. No Fluorescence
5793'		Gas Kick Coal
5790-5800	40	Coal
	40	Shale, as above
	20	Sandstone, as above
5800-5810	30	Coal
	50	Shale, as above
	20	Sandstone, as above
5810-5820	85	Shale, medium to dark brown, medium hard, carbonaceous, pyritic, noncalcareous grading in part to Siltstone
	5	Coal
	10	Sandstone, very fine to fine grained, silty, as above
5820-5830	65	Shale, as above
	25	Coal
	10	Sandstone, as above
5838'		60 Units Gas kick Sandstone, light grey-buff, very fine to fine grained, silt carbonaceous, grading to Siltstone, tight, no fluorescence
5830-5840	20	Sandstone, silty, fine to medium grained, subangular to subrounded, moderate to poor sorting, calcareous, shaley in part, with clay matrix, abundant pyrite No show
	60	Shale, light to dark brown, carbonaceous, firm-soft, locally silty, coaly filaments
	20	Coal, bleeding gas
5840-5850	25	Sandstone, as above
	50	Shale, as above
	25	Coal, as above
5850-5860	30	Sandstone, grey to light brown, medium grained to silty, dominately fine grain dolomitic, very pyritic, tight, no show
	40	Shale, dark brown, as above
	30	Coal, black, bleeding gas
5860-5870	40	Sandstone, as above, light grey to dark buff, very tight, with abundant dolomit cement, pyritic. <10% porosity, no permeability
	30	Shale, dark brown, carbonaceous
	10	Coal
5870-5880	20	Sandstone, as above, tight, no show
	50	Shale, dark brown, as above
	30	Coal, black
		Show gas kicks ± 100 unit coals to 5910'
5880-5890	10	Sandstone, as above
	30	Shale, as above
	60	Coal, as above
5890-5900	10	Sandstone, as above
	20	Shale, as above
	70	Coal, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Belli
C. Ford, A. Svalbe
L. Brooks L. Ellip

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
5900-5910	10	Sandstone, as above
	30	Shale, as above
	60	Coal, as above
5910-5920	10	Sandstone, as above
	30	Shale, as above
	60	Coal, as above
5920-5930	10	Sandstone, as above
	20	Shale, as above
	70	Coal, as above
5930-5940	20	Sandstone, light grey, very fine to fine grained, trace medium grains, carbonaceous, dolomitic, tight, clay matrix, tight, very low <10% porosity, very low permeability, no show.
	30	Shale, brown, carbonaceous, as above
	50	Coal, black, as above
5940-5950	40	Sandstone, as above, fine to medium grained becoming dominately medium grained
	20	Shale, as above
	40	Coal, as above
5950-5960	50	Sandstone, light grey to light buff, medium to fine grained, dominately medium grained, angular to rounded, moderately well sorted, tight with abundant dolomitic cement, clay matrix, trace pyrite, 10% porosity, very low permeability
	20	Shale, dark brown
	30	Coal, black
5960-5970	50	Sandstone, as above
	20	Shale, as above
	30	Coal, as above
5970-5980	60	Sandstone, as above
	20	Shale, as above
	20	Coal, as above
5980-5990	100	Coal, black, bleeding gas
5987'		50 Units gas kick Coal
5990-6000	20	Sandstone, as above, grey, medium to fine grained, dominately fine grain, no show
	40	Shale, dark brown
	40	Coal, as above
5995'		60 Unit gas kick
6000-6010	30	Sandstone, as above, silty, tight
	50	Shale, as above
	20	Coal, as above
6010-6020	10	Sandstone, as above, silty, very fine to fine grained
	80	Shale, light to dark brown, carbonaceous
	10	Coal
6020-6030	30	Sandstone, as above
	30	Shale, as above
	40	Siltstone, light to dark brown, carbonaceous, micaceous, pyritic, very hard to soft, very poor porosity and permeability. No show
		Trace coal

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R.Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6030-6040	20	Sandstone, as above
	20	Shale, as above
	60	Siltstone, as above
		Trace Coal
6040-6050	10	Sandstone, as above
	50	Siltstone, light to dark brown, as above
	40	Shale, locally silty
		Trace Coal
6050-6060	100	Siltstone, as above
		Trace Coal and Sandstone
6060-6070	100	Siltstone, as above
		Trace coal and sandstone
6070-6080	100	Siltstone, light brown to dark brown, argillaceous, carbonaceous (finely disemminated and laminae), slightly micaceous, non-calcareous
6087'		Gas Kick 75 Units. Sandstone, light grey, very fine grained to silty, slightly carbonaceous, poor to fair sorting, calcareous cement. No fluorescence, tight
6080-6090	40	Siltstone, as above, pyritic in part
	60	Sandstone, as above
6090-6100	100	Siltstone, grading to very fine grained Sandstone, calcareous cement
6100-6110	100	Siltstone, as above
6110-6120	100	Siltstone, as above
6132'		Gas Kick 100 units Coal, black
6120-6130	70	Coal, black, brittle, conchoidal fracture, pyritic
	30	Siltstone, as above
6130-6140	40	Coal, as above
	50	Siltstone, as above
	10	Sandstone, light grey, very fine to fine grained, silty, subangular-subrounded poor to fair sorting, calcareous cement, tight, no fluorescence
6140-6150	80	Sandstone, as above
	15	Siltstone, as above
	5	Coal
6150-6160	70	Sandstone, as above
	30	Siltstone, as above, argilleous
		Trace Coal
6160-6170	60	Siltstone, as above, very argillaceous
	40	Sandstone, as above
6170-6180	70	Shale, light to dark brown, silty, micaceous, finely disemminated carbonaceous subfissile
	30	Sandstone, as above, with pyritic cement
6180-6190	100	Shale, as above, occasional pyrite, silty in part
6190-6200	70	Shale, as above,
	20	Sandstone, as above
	10	Coal
6200'		Gas Kick 60 units Sandstone or Coal, sandstone very fine grain, with coaly fragments, as above, tight

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6200-6210	30	Coal
	65	Shale & Siltstone, as above
	5	Sandstone, as above
6210'		40 Units Coal
6215'		100 Units Coal
6210-6220	35	Coal
	60	Shale, as above
	5	Sandstone, as above
6220-6230	35	Coal, as above
	55	Shale-Siltstone, as above
	10	Sandstone, as above
6230-6240	25	Coal
	60	Shale, as above
	15	Siltstone, as above
6240'		65 Units Coal Gas Kick @ 6245' 65 Units Grab sample Sandstone, light grey, very fine-fine grained, poor to fairly sorted, calcareous cement, pyritic, firm to friable, occasionally clayey, tight, no fluorescence
6240-6250	5	Coal
	20	Siltstone, as above
	60	Shale, as above
	15	Sandstone, as above
6250-6260	70	Shale, as above
	30	Siltstone, as above
		Trace Coal
6260-6270	5	Coal
	40	Shale, as above
	35	Siltstone, as above
	25	Sandstone, light grey to buff, very fine to fine grained, occasionally medium grained, poor to fair sorting, calcareous cement, carbonaceous in part, sub-angular to subrounded, tight
6270-6280	5	Coal and very carbonaceous Siltstone
	30	Shale, as above
	30	Siltstone, as above
	35	Sandstone, as above
6280-6290	30	Shale, as above
	35	Siltstone, as above
	35	Sandstone, as above, with increasing % of medium and occasional coarse grains, loose quartz
		90 Units Gas Kick 6290' Sandstone, mostly very fine-fine grained, as above, tight, with loose medium to very coarse grains, porous? Gas Kick 6292' Siltstone, cream, slightly micaceous and calcareous and carbonaceous with very carbonaceous to coaly laminae in part grading to very fine grained sandstone
6290-6300	50	Siltstone, as above, cream to buff, grading to very fine grained sandstone
	35	Shale, light to medium brown, silty in part, as above
	15	Sandstone, light grey to light brown, very fine to fine grained, very occasionally medium to coarse grained, tight, as above
6300-6310	60	Siltstone to very fine grained Sandstone, as above, occasional medium-coarse grain, loose
	40	Shale, silty light to medium brown, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6310-6320	60	Shale, light brown to medium brown, argillaceous
	40	Siltstone, as above
6320-6330	60	Siltstone, light to dark brown, shaley, carbonaceous, very fine grain sandston
	40	Shale, dark brown, carbonaceous, silty
		Trace Coal
6330-6340	20	Sandstone, light grey to buff, very fine to medium grain, dominately fine to medium grained, angular to rounded, firm to hard, dolomitic, pyritic, tight <12% porosity, no permeability, moderately well sorted
	40	Siltstone, shaley, carbonaceous, as above
	40	Shale, light to dark brown, as above
		Trace Coal
6340-6350	10	Sandstone, as above
	50	Siltstone, as above
	40	Shale, as above
		Trace Coal
6350-6360	10	Sandstone, as above
	30	Siltstone, as above
	60	Shale, as above, silty
		Trace Coal
6360-6370	40	Siltstone, as above
	60	Shale, silty
		Trace Coal and Sandstone
6370-6380	50	Siltstone, as above, shaley
	50	Shale, silty
		Trace Sandstone and coal
6380-6390	40	Sandstone, light grey, fine to medium grey, dominately fine grained, angular to rounded, dolomitic, <20% porosity, tight, moderately well sorted.
	30	Siltstone, as above
	30	Shale, as above
		Trace Coal
		90 Units gas kick at 6387'
		100 Units gas kick at 6393'
6390-6400	20	Sandstone, as above, no show
	60	Siltstone, as above
	20	Shale, as above
		Trace coal
6400-6410	10	Sandstone, as above
	70	Siltstone, as above
	20	Shale, as above
		Trace coal
6410-6420	10	Sandstone, as above, argillaceous
	50	Siltstone, as above
	40	Shale, as above
		Trace coal, as above
6420-6430	80	Siltstone, as above, argillaceous
	20	Shale, as above
		Trace Coal, as above
6430-6440	100	Siltstone, argillaceous
		Trace Shale, sandstone

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellip

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6440-6450	100	Siltstone, as above, argillaceous
		Trace Shale and sandstone
6450-6460	100	As above
		Trace as above
6460-6470	10	Sandstone, grey, fine to very fine grain, argillaceous, silty, clay matrix, tight, no show
	70	Siltstone, argillaceous, light to dark brown, carbonaceous, pyritic
	20	Shale, dark brown, silty, carbonaceous
6462'		130 Units gas kick
6465'		95 Units gas kick
6470-6480	70	Siltstone, light brown, argillaceous
	30	Shale, as above
		Trace Coal and sandstone
6480-6490	10	Sandstone, white to light grey, medium to coarse grain, rounded, moderately well sorted, friable, loose uncemented grains, quartzose, high porosity and permeability. No show - fluorescence or cut
	50	Siltstone, argillaceous, as above
	40	Shale, silty, as above
		86 Units Gas Kick at 6490'
		125 Units Gas Kick at 6493'
6490-6500	40	Sandstone, partly as above, but with additional fine to medium grains, angula to rounded, moderately well sorted, dolomitic cemented, and clay choked aggregates, no fluorescence or cut
	40	Siltstone, light to dark brown, argillaceous
	20	Shale, light to dark brown
6500-6510	60	Sandstone, as above
	30	Siltstone, as above
	10	Shale, as above
		P.O.H. for N.B. 6511'
0-6520	70	Sandstone, clear quartz, coarse to very coarse grains, occasional medium grai loose, fair to good sorting, subrounded, good porosity
	20	Sandstone, very fine to fine grained, calcareous cement, tight, as above
	10	Shale and Siltstone, as above
		No fluorescence
6527'		100 Units Gas Kick. Grab sample 75% Shale, medium to dark brown, silty, micaceous, carbonaceous. 20% Sandstone, very fine grain, tight, as above 5% loose coarse grained quartz
6520-6530	50	Sandstone, loose medium to very coarse grains, as above
	25	Sandstone, light grey to buff, very fine to fine grained, subangular to subrounded, fair to poor sorting, slightly carbonaceous, calcareous and clay cement, firm, tight
	25	Shale, as above
		80 Units Gas Kick at 6535' Sandstone, fine to very fine grained, tight, poor porosity. No fluorescence
6530-6540	70	Quartz, loose coarse to very coarse grained, subrounded, as above
	20	Sandstone, very fine to fine grained, silty, as above
	10	Shale, as above
		Gas Kick at 6540' 90 Units Sandstone, fine grain, as above, light grey, very fine grained, occasional medium grains, clay matrix, calcareous cement, fair sorting, carbonaceous in part, pyritic, subangular to subrounded, firm to moderately hard, tight, very poor porosity. No fluorescence

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellip

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6540-6550	30	Shale, as above
	50	Sandstone, very fine to fine grained, as above
	20	Sandstone, loose grains, as above
6553'		60 Units Gas Kick Sandstone, fine to very fine grained
6550-6560	50	Shale, as above
	40	Sandstone, very fine grained, as above
	10	Sandstone, medium to very coarse grained, loose, as above
6560-6570	80	Shale, as above, grading to Siltstone
	20	Sandstone, as above, mostly very fine to fine grained
6570-6580	90	Shale, as above
	10	Sandstone, very fine grained, as above
6580-6590	95	Shale, as above
	5	Sandstone, as above
●		75 Units Gas Kick at 6573' Siltstone, light grey, grading to very fine grained Sandstone, carbonaceous, tight
6590-6600	70	Shale, as above
	30	Siltstone, light grey to light brown, as above
6605'		120 Units Gas Kick. Siltstone, cream, very fine grained to silty good sorting, subrounded to rounded, carbonaceous, non-calcareous, trace poor porosity, firm to moderately hard, coaly laminae
6600-6610	50	Shale, as above
	30	Siltstone, as above
	20	Sandstone, very fine to fine grained, as above
6610-6620	20	Shale, as above
	80	Sandstone, very fine grained grading to Siltstone, cream to buff, occasional coarse grains, poor to fair sorting, carbonaceous, with coaly fragments - laminae, subangular to subrounded, pyritic associated with very carbonaceous aggregates, non-calcareous, mostly tight, very poor porosity. No fluorescence
●		Gas Kick ~90 Units at 6615'
		Gas Kick 6628'. Sandstone, as above, slightly coarser grained, mostly very fine to fine grained
6620-6630	40	Shale
	60	Sandstone-Siltstone, as above
		Trace Coal - associated with very fine grained Sandstone
		Gas Kick 100 Units 6624-6637' Sandstone, as above, very fine to fine grained, very coaly and carbonaceous 5% Coal associated occasional medium to coarse grains, amber (Fluorescence).
6630-6640	80	Sandstone, buff to dark brown, very fine grained to medium grained, occasional coarse grains, poor sorting, subangular to subrounded, pyritic cement, very carbonaceous with coaly laminae and partings, amber
	20	Shale, as above, clay matrix, tight poor porosity
6640-6650	60	Sandstone, as above
	40	Siltstone, argillaceous, as above
6650-6660	50	Sandstone, light brown, fine to very fine grained, tight
	30	Siltstone, argillaceous, light to dark brown
	20	Shale, silty, light to dark brown, carbonaceous
		Gas Kick at 6665' 70 Units

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellip

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6660-6670	30	Sandstone, trace medium grained sandstone, as above
	30	Siltstone, as above
	40	Shale, as above
6670-6680	40	Sandstone, as above
	30	Siltstone, as above
	30	Shale, as above
		Gas Kick at 6675'
6680-6690	30	Sandstone, as above, no show
	40	Siltstone, as above, argillaceous
	30	Shale, as above, silty
6690-6700	10	Sandstone, as above, fine to very fine grained, no fluorescence or cut
	40	Siltstone, as above
	50	Shale, as above, silty
		Gas Kick of 62 units at 6697'
[illegible]00-6720	10	Sandstone, as above
	40	Siltstone, as above
	50	Shale, silty, as above
6720-6730	10	Sandstone, as above
	60	Siltstone, as above
	30	Shale, silty, as above
		Gas Kick 90 Units at 6725'
6730-6740	20	Sandstone, light grey to light brown, very fine to medium grained, dominately fine grained, angular to rounded, firm to very hard, with abundant dolomite and pyritic cement locally otherwise clay choked with carbonaceous flecks. No fluorescence
	50	Siltstone, as above
	30	Shale, silty, as above
		Gas Kick 65 Units at 6733'
		Gas Kick 80 Units at 6738'
[illegible]0-6750	20	Sandstone, as above
	60	Siltstone, as above
	20	Shale
		Gas Kick 95 Units at 6745'
6750-6760	20	Sandstone, as above
	50	Siltstone, as above
	30	Shale, as above
		Gas Kick 80 Units at 6750'
6760-6770	40	Sandstone, as above
	40	Siltstone, as above
	20	Shale, silty, as above
6770-6780	30	Sandstone, as above, no show
	50	Siltstone, argillaceous
	20	Shale, light to dark brown, silty, as above
6780-6790	20	Sandstone, as above
	60	Siltstone, as above
	20	Shale, as above
6790-6800	80	Siltstone, with trace medium to fine grained sandstone, as above
	20	Shale, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6800-6810	80	Siltstone, as above
	20	Shale, as above
6810-6820	80	Siltstone, as above
	20	Shale, as above
		Gas Kick at 6822 and 6825'. Sandstone, very fine grained, silty
6820-6830	40	Siltstone, as above
	50	Sandstone, light grey to light brown, very fine to fine grain, silty argillaceous matrix, subangular to subrounded, very carbonaceous and coaly in parts. slightly micaceous, tight
	10	Shale, as above
6830-6840	50	Shale, as above
	40	Siltstone, as above
	10	Sandstone, as above
6842'		120 Units Gas Kick 10% Coal in sample
6[illegible]0-6850	80	Siltstone, grading to very fine grained sandstone, as above
	20	Shale, as above
		Trace Coal
6850-6860	50	Shale
	50	Siltstone, as above
		110 Unit Gas Kick 6860'-6870. Grab sample. Sandstone, light grey, very fine to fine grained, fair sorting, subrounded friable to firm, dolomitic cement, clay matrix, carbonaceous, coaly fragments and laminae, tight, very poor porosity
6860-6870	50	Sandstone, as above
	20	Siltstone, as above
	30	Shale, as above
6870-6880	50	Siltstone, as above
	30	Sandstone, as above
	20	Shale, as above
6[illegible]-6890	80	Shale, as above
	20	Siltstone, as above
		Trace Coal
6890-6900	90	Shale, as above
	10	Siltstone, as above
6900-6910	100	Shale, as above
6917'		65 Units Gas Kick Coal
6910-6920	40	Coal
	60	Shale, as above
6920'		100 unit Gas Kick Coal
6923'		Gas Kick Grab Sandstone, very fine to fine grained, as above, very coaly in part, friable to firm. No fluorescence
6929'		Gas Kick Grab Coal
6920-6930	80	Coal,
	10	Shale, as above
	10	Siltstone, as above
6930-6940	30	Coal, as above
	30	Shale, as above
	30	Siltstone, as above
	10	Sandstone, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bel
C. Ford, A. Svalbe
L. Brooks L. Ellig

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
6945'		Gas Kick 50 units Shale, very carbonaceous to coaly
6940-6950	40	Shale, as above
	30	Siltstone, as above
	30	Sandstone, mostly very fine to fine grained, tight, as above, occasionally medium grained to very coarse
6950'		Gas Kick 60 Units Sandstone, white, loose quartz grains, medium to very coarse grains, occasionally pebbly, some very fine to fine grain aggregates, poor to fair sorting, slightly carbonaceous, occasional pyritic cement, subangular to subrounded, poor to fair porosity. No fluorescence, dolomitic cement
6950-6960	40	Shale and Siltstone, as above
	60	Sandstone, as above, no fluorescence
		Trace Coal
6960-6970	70	Sandstone, loose as above, generally subrounded, tight, in aggregates
	20	Siltstone, as above
	10	Shale, as above
6970-6980	90	Sandstone, loose medium to very coarse grains, as above, subrounded to rounde
	10	Shale and Siltstone, as above
		Trace Coal
6985'		65 units Sandstone, as above, very coarse to granular, subrounded-rounded Gas background ~35 from 6950-6990 drops back to ~10.
6980-6990	100	Sandstone, fine to granular, as above
		Trace Coal and Shale
6990-7000	30	Sandstone, loose grains, as above
	70	Sandstone, light grey to light brown, very fine grains, silty, dolomitic cement, subangular to subrounded, fair sorting, disemminated carbonaceous fragments, slightly micaceous, firm to moderately hard, pyritic, argillaceous matrix, tight, no shows
		At 7005' as above, very dolomitic, hard
		Gas Kick 7007' 50 Units, Sandstone, very fine grained dolomitic, as above
7000-7010	100	Sandstone, very fine grain grading to Siltstone, dolomitic, as above
7010-7020	100	Sandstone, as above
7015'		Gas Kick 50 units Coal and very carbonaceous and coaly shale
7020-7030	40	Coal
	60	Sandstone, very fine grained to silty, as above
7030-7040	90	Sandstone, as above
	5	Coal
	5	Shale, medium to dark brown, carbonaceous
7040-7050	60	Siltstone, light grey to medium brown, carbonaceous, argillaceous, micaceous, pyritic
	35	Sandstone, very fine grained grading to Siltstone, as above
	5	Coal
7050-7060	70	Shale, medium to dark brown, silty, carbonaceous, micaceous, subfissile, firm
	20	Siltstone, as above
	10	Sandstone, as above
		Trace Coal

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bel
C. Ford, A. Svalbe
L. Brooks L. Ellig

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
		Gas Kick at 7005' 40 units · very fine-fine grained Sandstone, as above
7060-7070	70	Shale, as above
	20	Siltstone, as above
	10	Sandstone, as above
7075'		Gas Kick 75 units, very fine to fine grained Sandstone, very carbonaceous, as above
7070-7080	80	Shale
	20	Siltstone, weakly sandy with fine to very fine grained sandstone
7080-7090	40	Siltstone, as above
	20	Shale, as above
	40	Coal, black, bleeding gas
7090-7100	10	Sandstone, white to grey, medium to coarse grained, angular to rounded, moderately well sorted, quartzose, friable, high porosity and permeability, no show
	30	Siltstone, light brown, argillaceous, dolomitic, tight. No show
	30	Shale, as above
	30	Coal, black
7100-7110	50	Siltstone, argillaceous, dolomitic, pyritic, tight, no show
	40	Shale, as above, silty
	10	Coal, as above
7107'		79 units gas kick Coal
7110-7120	40	Siltstone, as above
	50	Shale, silty, as above
	10	Coal, as above
7120-7130	50	Siltstone, as above
	50	Shale, as above
		Trace Coal
7130-7140	60	Shale
	40	Siltstone, trace very fine grained sandstone, argillaceous
		Trace Coal
7140-7150	30	Siltstone, trace very fine grained sandstone, argillaceous, pyritic, dolomitic
	70	Shale, as above
		Trace coal
7150-7160	30	Siltstone, as above
	70	Shale, as above
7160-7170	30	Siltstone, as above, very minor medium grained sandstone
	70	Shale, as above
		Trace Coal
7170-7180	100	Coal, black, bleeding gas
7175'		125 units gas kick
7180-7190	70	Siltstone, light grey to medium brown, moderately hard to hard, argillaceous, carbonaceous, slightly micaceous
	20	Shale, medium to dork brown, carbonaceous, micaceous, subfissile, firm to mediu hard
	10	Coal
7190-7200	50	Coal, predominately cavings
	30	Siltstone, as above
	20	Shale, as above
7200-7210	40	Coal
	40	Shale, as above
	20	Siltstone, as above

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellig

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
7210-7220	10	Coal
	70	Shale, as above
	20	Siltstone, as above
7225'		Gas Kick 100 units. Medium brown, very fine grain silty Sandstone, subangular to subrounded, clay matrix, non-calcareous, no fluorescence, friable, poor sorting, carbonaceous, micaceous, tight
7220-7230	60	Shale, as above
	30	Siltstone, as above
	10	Sandstone, as above
7230-7240	50	Shale, as above
	50	Siltstone, light to medium grey, grading to very fine grain sandstone, argillaceous, carbonaceous (dissemminated laminae) slightly micaceous, firm to medium hard
7240-7250	40	Shale, as above
	50	Siltstone, as above
	10	Sandstone, as above
		Trace Coal
7250'		Gas Kick 80 units. Very fine grained silty Sandstone, as above
7250-7260	30	Shale, as above
	40	Siltstone,
	30	Sandstone, as above
7260-7270	70	Coal
	30	Shale and Siltstone
7270'		100 units Gas kick Coal
7270-7275'		Buff very fine grained to silty Sandstone, carbonaceous, firm to friable, fair sorting, carbonaceous, coaly fragments and laminae, slightly micaceous, clay matrix, tight, very poor porosity, non-calcareous or slightly calcareous
7270-7280	90	Coal
	10	Shale and Siltstone
7280-7290	60	Coal
	30	Siltstone, as above
	10	Shale, as above
7288'		Gas Kick 90 units. Buff very fine grained sandstone, as above, calcareous cement, subangular to subrounded, clay matrix
7290-7300	50	Sandstone, light brown, very fine grain to fine, silty, dolomitic cement, clay matrix, carbonaceous, poor to fair sorting, slightly micaceous, subangular to subrounded, tight. 20% pale yellow fluorescence, no cut or very slow weak cut
	30	Siltstone, as above
	20	Shale, as above
7300-7310	50	Sandstone, as above. Fluorescence as above 60%
	20	Siltstone
	20	Shale, as above
7310-7320	50	Siltstone, as above, dolomitic cement, hard to very hard
	30	Sandstone, as above, pyritic
	20	Shale, as above, (5% very fine grained dolomite fragments). Minor fluorescence (no cut, as above), occasional medium to very coarse grains, angular to subangular quartz, poor sorting in dark brown dolomite matrix
7320-7330	60	Siltstone, dolomitic, as above
	20	Sandstone, as above, dolomitic cement
	10	Shale, as above
	10	Dolomite, dark brown, micritic

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
7332'		Bottom hole sample
	40	Shale, as above, non-calcareous
	60	Dolomitic Shale, Siltstone
		N.B. 7332'
7330-7340		(Sample in hole) - doubtful - full cavings
	50	Siltstone, as above
	40	Shale, as above
	10	Coal, with dark brown, very carbonaceous shale
7340-7350	100	Coal, black, bleeding gas
7347'		Gas kick 50 units
7350-7360	80	Coal, as above
	20	Shale, silty, as above
7360-7370	60	Coal, black
	40	Shale, dark brown, carbonaceous
		Trace sandstone and siltstone
7370-7380	80	Shale, silty, as above
	20	Coal, black
(7380-7390	30	Siltstone, brown to dark brown, argillaceous
(7390-7400	70	Coal, black
7400-7410	60	Siltstone, as above
	20	Shale, as above
	20	Coal, as above
7410-7420	50	Shale, as above
	50	Siltstone, as above
		Trace Coal
7420-7430	60	Shale
	20	Siltstone
	20	Coal
7430-7440	60	Coal
	30	Shale
	10	Siltstone
7442'		40 units gas kick. Very fine grain Sandstone, clay matrix, carbonaceous, subangular to subrounded, poor sorting, tight. No fluorescence
7445'		50 units gas kick. Buff, very fine grain Sandstone, as above, dolomitic matrix
7450'		Gas kick. Coal, in part shaley and Sandstone, very fine to fine grain, as above, no fluorescence.
7440-7450	30	Coal
	40	Siltstone, as above
	30	Sandstone, as above
7450-7460	80	Coal
	10	Siltstone and Shale, as above
	10	Sandstone, as above
7450-60'		150 units Gas kick Coal
7460-7470	90	Coal
	10	Shale, as above
7465'		100 units. Coal and sandstone, very fine to fine grain, coaly
7478'		210 units. Coal

SAMPLE DESCRIPTION

C.Ford, A. Svalbe
L. Brooks L.Ellig

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
7480-7470	100	Coal
7480-7490	60	Coal
	30	Shale, dark brown, carbonaceous, subfissile, micaceous
	10	Sandstone, very fine grained, silty, as above
7490'		Gas kick 100 units
7490-7500	40	Coal
	10	Shale
	10	Siltstone
	40	Sandstone, light brown to medium brown, very fine to fine grain, firm, subangular to subrounded, poor fair sorting, silty, dolomitic cement, carbonaceous to very carbonaceous, and coaly in parts, tight, very poor porosity. No fluorescence
		Gas Kick at 7500'. fine to very fine sandstone
7500-7510	30	Coal, as above
	30	Shale, as above
	20	Siltstone, as above
	20	Sandstone, as above
7510-7520	10	Coal
	40	Shale, as above
	40	Siltstone, as above
	10	Sandstone, as above
7520-7530	10	Shale, as above
	30	Siltstone, as above
	60	Sandstone, very fine to fine grain, as above. No fluorescence
		Gas kick at 7530'
7530-7540	40	Shale, as above
	30	Siltstone, as above
	30	Sandstone, as above
7545-50'		Gas kick 225 units Coal
7540-7550	100	Coal
7550-7560	90	Coal
	10	Shale and Siltstone, as above
7558'		Gas kick 50 units. Very fine grain sandstone, as above?
7563'		60 Units. Grab - cream to light brown Sandstone, very fine to fine grained Sandstone, friable to firm, subrounded, clay matrix, slightly carbonaceous, non-calcareous, fair sorting, poor porosity, occasional fair porosity, no fluorescence
7560-7570	30	Coal
	30	Shale, as above
	20	Siltstone, as above
	20	Sandstone, as above
7575'		Grab. Sandstone, light brown, fine grained, as above, occasional medium grain, occasional calcareous cement, common pale yellow fluorescence with slow cut
7570-7580	20	Coal
	20	Shale
	10	Siltstone
	50	Sandstone, as above
7580-7590	30	Coal
	20	Shale and Siltstone
	50	Sandstone, as above

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
		Sample at 7591'
	70	Sandstone, as above
	30	Shale and Siltstone, as above
		Cut C#3 7592-7652. Cut 60' Rec. 63'?
7655-7660		Contaminated sample - cavings from trip, etc.,
	30	Sandstone, as above
	30	Shale, as above
	40	Coal, as above
7660-7670	20	Sandstone, as above
	50	Shale, silty
	30	Coal, as above
7670-7680	100	Coal Trace shale, siltstone
7680-7690	100	Coal Trace shale, siltstone
90-7700	90	Coal, as above
	10	Shale, as above
7700-7710	35	Coal
	65	Shale, very carbonaceous to coaly
7710-7720	40	Coal
	60	Shale, as above
7720-7730	60	Coal
	40	Shale, as above
7730-7740	10	Coal
	80	Shale, medium to dark brown, as above
	10	Siltstone, grading to very fine grained Sandstone, as above
7740-7750	60	Sandstone, very fine to fine grained, cream to light brown, poor to fair sorti firm to moderately hard, subangular to subrounded, slightly carbonaceous, occasionally dolomitic, clay matrix, very poor porosity, occasional yellow fluorescence with slow cut
	40	Shale, as above
		Gas kick at 7740' 30 Units

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
7750-7760	20	Sandstone, very fine to fine grained, subrounded, moderately sorted, white, tight - dolomite cement?
	30	Siltstone, cream-dark brown
	45	Shale, medium to dark brown
	5	Coal, trace pyrite
7760-7770	50	Coal
	40	Shale, dark brown
	10	Sandstone, white, fine grained, some medium grained, subrounded, moderate sorting, tight, dull golden fluorescence.
		Trace pyrite
7770-7780	40	Shale
	40	Coal
	20	Sandstone, as above, slight dolomitic mineral fluorescence?
		Trace pyrite
7780-7790	60	Shale, medium to dark brown
	30	Sandstone, very fine to fine grained, subrounded, tight, dolomitic, mineral fluorescence
	5	Milky quartz granules - subrounded
	~5	Siltstone, light grey
		Trace coal, pyrite
7790-7800	30	Coal
	20	Sandstone, as above, dolomitic mineral fluorescence?, occassional granule
	10	Siltstone, as above
	40	Shale
7800-7810	40	Shale, as above, coally laminae
	40	Sandstone, as above, fluorescence, tight, hard - dolomitic cement
	20	Siltstone, carbonaceous
		Trace coal, pyrite
7810-7820	50	Sandstone, cream, very fine-fine grained, subrounded, moderate sorting, hard, tight, dolomitic cement - dull, yellow mineral fluorescence, occassional granule
	30	Siltstone, brown
	20	Shale, medium to dark brown
		Trace coal, pyrite
7820-7830	60	Sandstone, as above, but not as hard
	30	Siltstone, as above
	10	Shale, as above
7830-7840	50	Siltstone, as above
	35	Shale, as above
	15	Sandstone, as above, not as much dolomite
		Trace pyrite
7840-7850	70	Shale, medium brown, soft to firm
	20	Siltstone, brown parallel laminaes, soft to firm
	10	Sandstone, white, very fine, subangular to subrounded, tight, harder lumps cemented by dolomite - mineral fluorescence
		Minor coal, trace pyrite
7850-7860	20	Sandstone, very fine, occassionally medium grained, as above
	20	Siltstone, cream to medium brown
	55	Shale, medium to dark brown
	5	Coal
7860-7870	50	Shale, as above
	30	Coal, as above
	10	Siltstone, as above
	10	Sandstone, as above
7870-7880	20	Siltstone, medium brown, argilleous, carbonaceous, slightly micaceous, some dolomite

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
(cont')		
7870-7880	40	Shale, medium brown, carbonaceous flecks
	10	Coal, some pyrite
	20	Sandstone, white, fine to very fine grained, tight, in parts dolomitic
	10	Dolomite, tan, microcrystalline, hard
7880-7890	100	Coal, hackly, bleeding gas Trace Sandstone, shale and siltstone, as above
7890-7900	100	Coal, as above, probably with thin siltstone and shale interbeds
7900-7910	30	Siltstone, tan to brown, argilleous, in parts dolomitic, carbonaceous flecks & grains
	60	Sandstone, light grey, very fine, some medium, subrounded to subangular, poor to fair sorting, tight, floating coarse to very coarse, subrounded grains Trace pyrite, some argilleous
	10	Shale, medium brown, firm, carbonaceous flecks Trace coal, as above
7910-7920	90	Sandstone, as above, fair sorting, very fine grained
	10	Siltstone, as above
7920-7930	70	Sandstone, as above, some argillite
	20	Shale, medium to dark brown, carbonaceous, some silty, firm
	10	Siltstone, as above Trace dolomite, tan, microcrystalline, argilleous
7930-7940	80	Sandstone, as above, trace coarse subrounded grains
	10	Shale, as above
	10	Siltstone, as above
7940-7950	70	Sandstone, as above, very fine, silty
	20	Siltstone, as above, medium brown to grey, argilleous, carbonaceous
	10	Shale, as above, some dolomite
7950-7960	50	Siltstone, grey to medium brown, argilleous, some sandy (very fine) grains, carbonaceous partings, firm
	40	Sandstone, light grey, very fine to fine, some silty, tight, poor to fair sorting, some brown, argilleous to very argilleous, carbonaceous
	10	Shale, medium brown, carbonaceous, firm Trace Dolomite, brown silty, argilleous, hard
7960-7970	60	Shale, medium brown, silty to very silty, carbonaceous, grades to
	20	Siltstone, argillaceous
	20	Sandstone, as above
7970-7980	80	Shale, as above
	10	Siltstone, grading to as above
	10	Sandstone, as above
7980-7990	50	Shale, medium brown, soft-firm, silty-very silty, grades to
	40	Siltstone, medium brown, argillaceous
	10	Sandstone, cream, very fine to fine, fair sorting, tight-hard lumps are dolomit others argillite, rare granule
7990-8000	60	Shale, as above
	25	Siltstone, as above
	10	Sandstone, as above, some blue fluorescence, fair cut
	5	Coal
		Trace dolomite, buff coloured
8000-8010	70	Siltstone, argilleous, as above
	25	Shale, silty, as above, occassional dolomite
	5	Sandstone, cream, fine grained, sometimes dolomite, subrounded, moderate sortin

D. Maughan, K. Bell
C.Ford, A. Svalbe
L. Brooks L.Ellig

SAMPLE DESCRIPTION

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
8010-8020	70	Coal, one at ~8013, other ~8018'
	20	Shale, silty, grading to
	10	Siltstone, as above
		Trace sandstone, as above
8020-8030	70	Coal, (~8025')
	20	Shale, silty, as above, grading to
	10	Siltstone, as above
		Minor sandstone, as above
8030-8040	50	Coal
	25	Shale, silty, as above, grading to
	15	Siltstone, argillaceous
	10	Sandstone, as above, bright gold fluorescence. Slow cut. Gas shows slightly higher than normal heavies. C_1 4,500, C_2 = 600, C_3 300, C_4 100
8040-8050	45	Coal
	20	Sandstone, white to light grey, fine grained, subangular to subrounded, fair sorting, mostly hard and tight - dolomitic cement. Bright gold fluorescence & good cut on some chips
	20	Siltstone, light grey-medium brown, argillaceous
	15	Shale, silty, medium brown to dark brown
8050-8060	60	Coal, bleeding gas
	30	Shale, medium brown, carbonaceous, firm, some silty, grading to
	10	Siltstone
		Trace sandstone, light grey to white to tan, fine to very fine grained, tight with occassional fluorescence and cut as above in very tight chips
8060-8070	70	Shale, as above
	20	Sandstone, fine to very fine grained, light grey, subrounded, fairly sorted, some argillaceous tight, with fair fluorescence and cut as above. (Appears to be tight sandstone stringer @ 8067').
	10	Siltstone, as above
8070-8080	60	Shale
	30	Sandstone, as above, tight, with fluorescence and cut as above
	10	Siltstone
8080-8090		As above
		NOTE: Fluorescence & cut in very tight sandstone chips with visual porosity barren - probably flushed section
8090-8100	50	Coal (probably thin coal 8097'-8100')
	40	Shale, medium brown, carbonaceous, firm, in parts silty
	10	Siltstone, brown, very argillaceous slightly micaceous
		Trace sandstone, as above, no fluorescence or cut
8100-8110	70	Shale, as above, very carbonaceous (partings & flakes)
	20	Siltstone, as above
	10	Sandstone, as above, rare fluorescence and cut
8110-8120	70	Coal, bleeding gas
	20	Shale, grading to some siltstone, carbonaceous, as above
	10	Sandstone, light grey, very fine, tight, no show
8120-8130		Coal, as above with trace to 10% Shale
8130-8140	50	Coal
	25	Siltstone, medium grey
	20	Shale, silty, as above
	5	Sandstone, as above

SAMPLE DESCRIPTION

C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
8140-8150	50	Coal (from band at 8145') bleeding gas
	50	Shale, silty to very silty, as above
		Minor sandstone, as above
		Thin band pyrite
8150-8160	50	Shale, grading to siltstone, as above
	40	Coal
	10	Sandstone, white, fine grained, subangular, moderately sorted, tight dolomitic cement and others clay choked
		Trace pyrite
8160-8170	80	Coal (8160-65) bleeding gas (≡ 8200'A6)
	15	Shale, as above
	5	Sandstone, coarser than above and cleaner, fine grained, common very coarse grained float
8170-8180	70	Sandstone, very fine to medium grained, fairly clean, subrounded, moderately sorted
	20	Silty Shale to Siltstone, medium brown
●	10	Coal, as above
		Slight drilling break and gas kick (Hotwire~50)
8180-8190	80	Sandstone, as above, very minor fluorescence, fair cut
	20	Shale, silty to Siltstone, as above
8190-8200	70	Shale, silty to Siltstone, medium brown, grading to
	30	Sandstone, light grey to white, very fine to fine grained, poor to fair sorting
		Poor porosity, trace dolomitic cement
8200-8210	50	Shale, silty and very carbonaceous - grading to coal - contains coal clasts, dark brown, firm, bleeding gas
	30	Siltstone, medium brown, argillaceous soft
	20	Sandstone, white, very fine to fine grained, poor-fair sorting. Occurs in thin layers, contains coal clasts
		Trace pyrite
8210-8220	50	Sandstone, as above, pyritic, occassional coarse grains better porosity
	35	Siltstone, medium to dark brown, argillaceous very pyritic
●	15	Shale, dark brown, pyritic, carbonaceous, silty
		Slight drilling break and gas peak (HW = 60)
8220-8230	20	Sandstone, as above, poor porosity
	40	Siltstone, as above
	40	Shale, as above, soft to firm
		Minor coal (cavings?)
8230-8240	60	Siltstone, medium brown, carbonaceous, pyrite, soft to firm
	35	Shale, silty, carbonaceous, pyritic
	5	Sandstone, grey-white, very fine-fine, tight, occassional dolomitic cement
		Trace pyrite. Minor coal (cavings?)
8240-8250	85	Siltstone, grading to very fine sandstone, medium grey to brown, carbonaceous, soft-firm
	10	Shale, silty, carbonaceous, medium-dark brown
	5	Sandstone, fine, occassional medium grained, light grey, tight, minor dolomitic cement
8250-8260	100	Coal, bleeding gas
		Minor interbeds of sandstone, siltstone, and shale as above
		Hot Wire 110 units
8260-8270	90	Coal
	10	Sandstone, tan/brown, very fine, very silty, very argillaceous tight, slightly micaceous, grading to sandy siltstone

TURRUM-2

SAMPLE DESCRIPTION

D. Battersby,
D. Maughan, R. Bell
C. Ford, A. Svalbe
L. Brooks L. Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
8270-8280	40	Siltstone, brown, firm, some sandy, argillaceous
	40	Sandstone, light grey, very fine, tight, dolomitic? subrounded to rounded, few coarse grains
	20	Coal
8280-8290	50	Coal
	40	Shale, brown/dark brown, carbonaceous appears interbedded with coal
	10	Sandstone, as above
8290-8300	60	Siltstone, brown-dark brown, very argillaceous carbonaceous, coaly, finely micaceous, grading to
	30	Shale, as above
	10	Coal
8300-8310	80	Siltstone, medium to dark brown, very argillaceous firm, finely pyritic, carbonaceous, and coaly with
	20	Coal, probably interbedded with siltstone
8310-8320	70	Siltstone, as above, grading to shale
	10	Coal
	20	Sandstone, light grey to tan, fine to very fine, tight, dolomitic (?), subrounded to subangular, fair sorting, some argillaceous and silty
8320-8330	80	Coal, interbedded with
	20	Siltstone, as above
8330-8340	80	Siltstone, as above
	20	Coal
		Trace Sandstone, as above
8340-8350	70	Siltstone, as above
	30	Sandstone, as above
8350-8360	60	Sandstone, light grey, very fine to fine grained, subrounded, poor to fair sorting, abundant hard chips contain dolomitic cement, very poor visual porosity
	40	Siltstone, medium-dark brown, very argillaceous firm, pyritic, carbonaceous
8360-8370	60	Sandstone, as above, better sorting, and porosity in unconsolidated chips, dull gold fluorescence and fair cut in dolomitic chips
	40	Siltstone, as above
		Abundant pyrtite, minor shale
8370-8380	30	Sandstone, as above dull gold fluorescence and fair cut in tight dolomitic chips
	60	Siltstone, as above, grading to
	10	Shale, silty
8380-8390	40	Shale, carbonaceous, dark brown, grading to
	30	Coal
	30	Siltstone, as above
		Trace sandstone, as above
8390-8400	30	Coal (at 8400)
	50	Shale, as above
	20	Siltstone, as above
		Trace sandstone, as above
8400-8410	30	Sandstone, as above + common subangular to subrounded, very coarse - granule quartz grains
	30	Siltstone, as above
	40	Shale, as above
8410-8420	60	Shale
	20	Siltstone
	20	Sandstone

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bell
C.Ford, A. Svalbe
L. Brooks L.Ellio

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
8420-8430	40	Sandstone, grey to tan, fine to medium grained, some very fine and coarse, fair to poorly sorted, subangular to angular, tight to fair porosity, some argilleous to very argillaceous appears thin interbedded, with
	40	Siltstone, brown, argillaceous some sandy, and
	20	Shale, brown, firm, coaly
8430-8440	70	Sandstone, loose unconsolidated coarse to granule size grains, angular to sub-rounded
	10	Sandstone, fine to medium grained, as above, better porosity
	20	Siltstone, as above
		Minor coal
8440-8450	45	Sandstone, coarse to granule, as above
	5	Sandstone, fine to medium grained, as above
	50	Siltstone, carbonaceous, pyritic, argillaceous brown
8450-8460	50	Sandstone, loose, as above
	15	Sandstone, very fine to fine, as above, interbedded with and grading to
	35	Siltstone, as above
		Trace coal (cavings?)
8460-8470	80	Sandstone, as above, no show
	20	Sandstone and Siltstone interbeds, as above
8470-8480		As above, (de-sander sample Sand, fine to coarse, subangular to subrounded, chiefly subrounded)
8480-8490		As above (minor siltstone - cavings (< 20%)
8490-8500		As above
8500-8510		As above
8510-8520		As above, coarse sand has good blue-white fluorescence, cut ??
8523		BOTTOM HOLE before Core 4. As above. Good blue-white fluorescence. Weak cut
8523-8529		CORE NO. 4
8529-8589		CORE NO. 5
8589-8600	80	Sand, medium to coarse, subrounded to subangular, poor sorting, trace pyrite, no show
	10	Shale, dark brown, coaly grading to
	10	Siltstone
		Trace Coal
8600-8610		As above
8610-8620		As above
8620-8630		As above
8630-8640		As above
8640-8650	100	Sand, as above
8650-8660	50	Sand, as above
	50	Sandstone, light grey, fine grained, fair sorting, tight, subangular, no show
		Trace Siltstone, dark brown, partings
8660-8670		As above
8670-8680		As above
8680-8690		As above, tighter, better consolidated

TURRUM-2

SAMPLE DESCRIPTION

D. Maughan, R. Bel
C.Ford, A. Svalbe
L. Brooks L.Ellis

17/6/74 - 8/7/74

DEPTH	%	SAMPLE DESCRIPTION
8690-8700	80	Sand, as above
	20	Sandstone, as above
8700-8710		As above
8710-8720		As above, with
	30	Coal
	40	Sandstone
	30	Sand
8720-8730	50	Siltstone, medium brown, pyritic, carbonaceous to very carbonaceous, some argillaceous (coal clasts)
	35	Sandstone, very fine to fine, fair sorting, light grey, tight
	10	Coal
	5	Sand, medium to very coarse, subangular to subrounded, poor to fair sorting
8730-8740	60	Siltstone, as above
	30	Sandstone, as above
	10	Sand, as above
8740-8750	90	Siltstone, as above, some interbedded Siltstone and sand laminae
	10	Sandstone, as above, no show
8750-8760	80	Siltstone, as above, sandy
	20	Sandstone, as above, thinly interbedded with siltstone. One chip dull gold fluorescence and weak cut (caving?)
		Trace sand, as above
		T.D. 8765' SAMPLE : 90% Siltstone, as above with interbedded 10% Sandstone, as above, no shows

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 2

SIDEWALL CORE DESCRIPTIONS

S.W. CORE DESCRIPTION - TURRUM #2 R.G. BELLIS

RUN #1

CORE NO.	DEPTH	RECOVERY	DESCRIPTION
2	5344'	100%	Sandstone, medium grain size, very light grey, friable some small flakes of muscovite, non-calcareous cement, mainly subangular grains, but some subrounded quartz grains, quartz is milky, no fluorescence.
4	5240'	100%	Shale, slightly calcareous, brown, soft, fissile, some minor amounts of silt, appears to have source material due to gas chromatograph readings.
5	5190'	100%	Sandstone, some trace amounts of black carbonaceous material, non-calcareous cement, very light grey, friable, coarse grained, moderately well sorted, sub-angular to subrounded, (there appears to be enough porosity, approximately 25%, 5% of the rock has a very faint spotty blue-white fluorescence. It shows a slow cut with a dull white fluorescence of the solvent. Th cut residue film is clear. From the above facts, it i likely that the show is gas - condensate. From the ga chromatograph readings the show is likely to be gas wi a high gravity condensate.
6	5140'	100%	Siltstone, medium light grey, non-calcareous, no fissility, soft, well sorted, subrounded, some mica flakes, no shows.
7	5084' (approx. Turrum Fm./Coarse Clasts.boundary)	100%	Sandstone, trace amounts of glauconite and mica, non-calcareous cement, light grey, friable, medium to coar grained, moderately well sorted, subrounded, 15-20% porosity, mud stained, 5% rock shows a very faint blue spotty fluorescence with no cut. The gas chromatograp readings indicate a show which is possibly a gas condensate.
8	5078' (Turrum Fm)		Greensand
		40%	Siltstone, trace amounts mica, brown, firm, very fine grained, poor sorting, subangular grains
		30%	Glauconite, green, firm, coarse to very coarse grain, poor sorting, angular, individual grains
		30%	Pyrite, hard, fine to coarse, disseminated and individ grains, poor sorting, angular grains
			Trace Quartz, clear, some milky, conchoidal fracture, very coarse grain, poor sorting, rounded.
9	5073'	100%	Mudstone, olive grey, very calcareous, non-fissile, cl size grains, no shows.
10	5060'	100%	Mudstone, olive grey, very calcareous, trace of mica, non-fissile, clay size grains, no shows.
11	5040'	100%	Shale-Mudstone, olive grey, very calcareous, fissile, clay size grains, no shows.
12	5030'	100%	Siltstone-Mudstone, light olive grey, very calcareous, firm, silt grain size, well sorted, subangular grains, no shows, trace of mica

S.W. CORE DESCRIPTION - TURRUM #2 R.G. BELLIS

RUN #1

CORE NO.	DEPTH	RECOVERY	DESCRIPTION
15	4800'	100%	Marl, light olive grey, very calcareous, firm, clay gra size, fairly abundant fossil fragments - shells, bryozoa? forams? Trace of faint spotty orange mineral fluorescence - fossils - fine to medium grain size, trace quartz grains, milky, subrounded, medium grain si hard, poorly sorted, no shows.
17	4492'	100%	Marl, very light grey, very calcareous, soft to partly firm, clay grain size, no shows, trace carbonaceous material.
18	4400'	100%	Marl, very light grey, very calcareous, soft to partly firm, clay grain size, no shows, trace quartz, glauconi and carbonaceous material - all very fine grain size.
19	4300'	100%	Marl, light grey, very calcareous, moderately firm, cla grain size, no shows, trace carbonaceous matter, glauconite and fossil fragments - forams; mica.
20	4200'	100%	Marl, light olive grey, moderately firm, clay grain siz no shows, trace mica, carbonaceous matter, fossil fragments - forams, bryozoa.
21	4100'	100%	Marl, olive grey, moderately firm, clay grain size, no shows, trace quartz, mica, glauconite, carbonaeeous matter, fossil fragments.
22	3900'	100%	Marl, light olive grey, soft, clay grain size, no shows trace mica, glauconite, fossil fragments, silty, very calcareous.
23	3700'	100%	Marl, light olive grey, moderately firm, clay grain size no shows, trace mica, glauconite, carbonaceous material possible fossil fragments, very calcareous
24	3500'	100%	Marl, light olive grey, moderately firm, clay grain size no shows, trace mica, glauconite, fossil fragments, quartz - milky, very calcareous.
25	3300'	100%	Marl, light olive grey, moderately firm, clay grain size no shows, trace mica, glauconite, quartz - milky, very calcareous.
26	3100'	100%	Shale, light olive grey, very calcareous, firm, clay to silt grain size, no shows, trace fossil fragments (shell mica, quartz - milky, fissile
27	2900'	100%	Marl, light olive grey, very calcareous, firm, clay gra size, no shows, trace fossil fragments (forams?, shells mica, quartz - milky.

SIDEWALL CORE DESCRIPTION TURRUM-2 CST RUN 2

CORE NO.	DEPTH	RECOVERY	DESCRIPTION
1	8745'	1" (50%)	Shale dark grey, carbonaceous, micaceous, slightly si firm, laminated. Fluorescence: 10% of rock, spotty, bright yellow. Cut: bright, light blue. Residue:med iun-heavy, yellow. Chromatograph: 16,000C_1, 1500C_2, 300C_3, 300C_4, 300C_{5+}
2	8710'	N.R.	
3	8685'	3/4" (37%)	Sandstone, white to light grey, very fine to medium grained, quartzose, micaceous, laminae of finely dis-seminated pyrite; subangular to subrounded, moderatel sorted. Good porosity when free of pyrite. No fluorescence. Chromatograph: 500C_1, 100C_2, tr. C_3
4	8658'	½" (25%)	Sandstone, white to very light grey, fine to medium grained, quartzose, laminae and clumps of finely dis-seminated pyrite, glauconitic, slightly micaceous, angular to subrounded, well sorted. Good porosity. N shows
5	8492'	½" (25%)	Shale, dark grey, glauconitic, slightly micaceous, si firm, homogeneous. No fluorescence. Chromatograph: 800C_1, 150C_2.
6	8382'	3/8" (20%)	Interlaminated sandstone and siltstone. Sandstone whi very fine to fine grained, quartzose, slightly micace moderately sorted. Siltstone, carbonaceous, micaceou coaly flakes, slightly pyritic. No shows
7	8302'	1" (50%)	Siltstone, dark brown to grey, slightly sandy, pyriti slightly micaceous, slightly carbonaceous, firm
8	8197'	½" (25%)	Siltstone, medium grey, sandy, carbonaceous, slightly micaceous, firm
9	8089'	5/8" (31%)	Claystone, medium grey, slightly micaceous, firm, homogeneous
10	7985'	½" (25%)	Claystone, light grey, slightly micaceous, soft, homogeneous
11	7874'	5/8" (31%)	Claystone, medium grey, slightly silty, slighty micac soft, subfissile, homogeneous
12	7762'	½" (25%)	Siltstone, light grey, argillaceous, slightly micaceo firm, homogeneous
13	7666'	1" (50%)	Sandstone, white, very fine to fine grained, quartzos slightly micaceous, scattered lithic grains, silty, carbonaceous laminae. No shows.
14	7520'	3/4" (37%)	Claystone, medium grey, silty, slightly micaceous, slightly pyritic, firm, subfissile, homogeneous
15	7418'	1" (50%)	Claystone, medium grey, silty, slightly micaceous, slightly pyritic, laminae of coarse silt to very fine quartzose sand. Non-fissile
16	7310'	3/4" (37%)	Siltstone, medium grey, argillaceous, slightly sandy, slightly micaceous, soft, homogeneous
17	7211'	3/4" (37%)	Siltstone, medium grey, argillaceous, very slightly sandy, slightly micaceous, slightly pyritic, firm; interlaminated darker argillaceous and lighter sandy layers
18	7052'	1¼" (62%)	Claystone, medium grey, silty, slightly micaceous, s homogeneous

CORE NO.	DEPTH	RECOVERY	DESCRIPTION
19	6940	3/4" (37%)	Siltstone, interlaminated layers of dark grey argilla micaceous silt and white quartzose coarse silt, soft
20	6803	1¼" (62%)	Claystone, medium brown-grey, slightly silty, slightl micaceous, firm, homogeneous
21	6644	1¼" (62%)	Sandstone, light grey, very fine grained, quartzose, interlaminated with brown sandy micaceous siltstone. shows
22	6516	1" (50%)	Siltstone, medium brown, argillaceous, slightly sandy, slightly micaceous, pyritic, firm, homogeneous
23	6405	3/4" (37%)	Siltstone, medium brown argillaceous, slightly micaceo slightly pyritic layers with light grey slightly sandy laminae; firm
24	6282	1" (50%)	Siltstone, medium brown to grey, argillaceous, slightl micaceous, slightly pyritic, soft, homogeneous
25	6156	1¼" (62%)	Claystone, medium brown to grey, silty, slightly micac eous, firm, homogeneous
26	6042	1¼" (62%)	Claystone, medium grey, silty, slightly micaceous, fir homogeneous
27	5897	1" (50%)	Siltstone, light grey, slightly argillaceous, slightly micaceous layers and white, quartzose layers; firm, su fissile
28	5751	1" (50%)	Siltstone, light grey, argillaceous, soft, homogeneous
29	5637	1¼" (62%)	Claystone, medium brown, silty, slight micaceous, soft homogeneous
30	5522	N.R.	Misfire

PAGE 1 OF 2

ATT 30 REC 22

DATE 22/6/74

ESSO AUSTRALIA LTD.

SIDEWALL CORE DESCRIPTIONS

SWC RUN NO 1

IES RUN NO —

WELL TURRUM #2

GEOLOGIST MAUGHAN/BELLIS

SERVICE CO SCHLUMBERGER

NO. 1a	DEPTH 1	REC 2	ROCK TYPE 3	MODIFIERS 4	CAL 5	COLOR 6	INDUR DEG 7	GRAIN SIZE 8	SRTG 9	RND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE % RK	FLOURESCENCE DISTR 14	FLOURESCENCE INTEN 15	FLOURESCENCE COLOR 16	CUT FLUOR. INTEN 17	CUT FLUOR. COLOR 18	CUT RESIDUE QUAN 19	CUT RESIDUE COLOR 20	SHOW 21	PROB PROD 22	REMARKS - GAS 23
1	5364'	0																					
2	5344'	1"	SS	Mica	—	v.lt.gy.	fri	m.	w	sub-ang.	+15-25%	—	0	—	—	—	—	—	—	—	NS	N	C_1-2300 ppm
3	5272'	0																					
4	5240'	1¼"	Sh	--	v.	bn.	slt	slt	w	--	--	--	0	--	--	--	--	--	--	--	NS	N	C_1 2900, C_2 1300
																							C_3 700, C_4 3100
5	5190	3/4"	Ss	Sl.Coaly	--	v.lt.gy.	fri	c	mod.	sub-ang.	+-15%	mud	5%	spty	fnt	bl-wh	dul	wh	tr	clear	GC	GAS	C_1 2300, C_2 6500
																						SHOW	C_3 2300, C_4 4100
6	5140	1"	Sltst	Mica	--	med. lt.gy.	sft	slt	w	sub-rd	--	--	0	--	--	--	--	--	--	--	NS	N	
7	5084	1½"	Ss	Glauc,mica	--	lt.gy.	fri.	m-c	mod	sub-rd	+-15%	mud	5%	spty	fnt	bl	--	--	--	--	NS	GAS	C_1 6000, C_2 1000,
																						SHOW	C_3 1500, C_4 400
8	5078	1"	Sltst	Mica	sl	br	frm	vf	p	sub-ang.	+25-30%	--	0	--	--	--	--	--	--	--	NS	N	C_1 1800, C_2 500
				glau	--	gn	frm	c-vc	p	ang	--	--	--	--	--	--	--	--	--	--	--	--	C_3 500, C_4 400
				pyr	--	brass	hd	f-c	p	ang	--	--	--	--	--	--	--	--	--	--	--	--	C_5 1800
				qtz	--	clear	hd	vc	p	rd	--	--	--	--	--	--	--	--	--	--	--	--	
9	5073	2"	Mdst.	--	v	ol-gy	frm	<slt	--	--	--	--	0	--	--	--	--	--	--	--	NS	N	--
10	5060	2"	Mdst.	mica	v	ol-gy	frm	<slt	--	--	--	--	0	--	--	--	--	--	--	--	NS	N	--
11	5040	2"	Sh	--	v	ol-gy	frm	<slt	--	--	--	--	0	--	--	--	--	--	--	--	NS	N	Some fissility
12	5030	1"	Sltst	mica	v	lt. ol-gy	frm	slt	w	sub-ang	--	--	0	--	--	--	--	--	--	--	NS	N	--
13	5020	0																					Bullet shattered
14	4900	0																					Bullet shattered
15	4800	1¼"	Marl	Qtz,Foss.Frag.	v	lt.ol-gy	frm	<slt	--	--	--	--	tr	spty	fnt	or	min	--	--	--	NS	N	Fossil fluoresce
16	4650	0																					
17	4492	½"	Marl	Carb	v	v.lt.gy.	sft	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
18	4400	1"	Marl	Carb,Qtz	v	v.lt.gy.	sft	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
				glauc																			
19	4300	3/4"	Marl	Carb,glauc.	v	lt.gy.	mod.frm	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	forams
				fossil frags																			
				mica.																			

FORM R 257 3/72

PAGE 2 OF 2

ATT 30 REC 22

DATE 22/6/74

ESSO AUSTRALIA LTD.

SIDEWALL CORE DESCRIPTIONS

IES RUN NO -- SWC RUN NO 1

SERVICE CO. SCHLUMBERGER

GEOLOGIST MAUGHAN/BELLIS

WELL TURRUM #2

NO. 1a	DEPTH 1	REC 2	ROCK TYPE 3	MODIFIERS 4	CAL 5	COLOR 6	INDUR DEG 7	GRAIN SIZE 8	SRTG 9	RND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE % RK	FLOURESCENCE DISTR 14	FLOURESCENCE INTEN 15	FLOURESCENCE COLOR 16	CUT FLUOR. INTEN 17	CUT FLUOR. COLOR 18	CUT RESIDUE QUAN 19	CUT RESIDUE COLOR 20	SHOW 21	PROB PROD 22	REMARKS - GAS 23
20	4200	½"	Marl	mica, carb foss.frags	v	lt. ol-gy.	mod.frm	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	forams, bryozoa
21	4100	3/4"	Marl	qtz, mica glauc, carb foss.frags.	v	ol-gy.	mod.frm	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
22	3900	3/4"	Marl	mica,glauc slty, foss.frag.	v	lt.ol-gy	sft	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
23	3700	1¼"	Marl	mica,glauc, carb, foss.frags?	v	lt.ol-gy	mod.frm	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
24	3500	3/4"	Marl	mica, glauc, foss. frags.qtz.	v	lt.ol-gy	mod.frm.	<slt	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25	3300	½"	Marl	mica, glauc, qtz	v	lt. ol-gy.	mod.frm.	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
26	3100	1¼"	Sh	foss.frags, mica, qtz	v	lt. ol-gy.	frm	slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	slightly fissile
27	2900	3/4"	Marl	foss.frags, mica, qtz,	v	lt. ol-gy.	frm	<slt	--	--	--	--	--	--	--	--	--	--	--	--	NS	N	--
28	2700	0																					Bullet did not fi
29	2500	0																					Bullet did not fi
30	2300	0																					Bullet did not fi

FORM R 257 3/72

PAGE 1 OF 2

ATT 30 REC 28

DATE 11/7/74

ESSO AUSTRALIA LTD.

SIDEWALL CORE DESCRIPTIONS

SWC RUN NO 12

IES RUN NO 3

WELL TURRUM-2

GEOLOGIST GILES

SERVICE CO SCHLUMBERGER

NO. 1a	DEPTH 1	REC 2	ROCK TYPE 3	MODIFIERS 4	CAL 5	COLOR 6	INDUR DEG 7	GRAIN SIZE 8	SRTG 9	RND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE % RK	FLOURESCENCE DISTR 14	FLOURESCENCE INTEN 15	FLOURESCENCE COLOR 16	CUT FLUOR. INTEN 17	CUT FLUOR. COLOR 18	CUT RESIDUE QUAN 19	CUT RESIDUE COLOR 20	SHOW 21	PROB PROD 22	REMARKS - GAS x 1000 23
																							C_1 C_2 C_3 C_4
1	8745	1"	SH	Carb,mic	-	dk gy	m.hd.					--	10	SP. resin	br.	yell	br	lt blue	m-hy	yell		--	16 1.5 .3 .3
2	8710	-																					N.R.
3	8685	3/4	SST	slty,carb	-	lt gy	sft	f														water	.5 .1 Tr -
4	8658	½	SST	sl slty	-	lt gy	sft	f														water	- - - -
5	8492	½	SLST	carb	-	brn gy	m.hd																.8 .15 - -
6	8382	3/8	SH	carb	-	dk gy																	
7	8302	1	SLTST		-	dk gy																	
8	8197	½	SLTST		-	dk gy																	
9	8089	5/8	CYST		-	m gy																	
10	7985	½	CLYST		-	dk gy																	
11	7874	5/8	CLYST		-	m.gy																	
12	7762	½	CLYST		-	lt gy																	N.S.
13	7666	1	SST		-	lt gy	m. hd	f															
14	7520	3/4	CLYST		-	m gy	m. hd																
15	7418	1	CLYST		-	gy-bn																	
16	7310	3/4	CLYST		-	m gy																	
17	7211	3/4	CLYST		-	m gy																	
18	7052	1¼	CLYST		-	dk gy																	
19	6940	3/4	SLTST		-	bn-gy																	
20	6803	1¼	CLYST		-	dk gy																	
21	6644	1¼	SST/SLTST		-	lt gy/bn																	
22	6516	1	SLST		-	m bn																	
23	6405	3/4	CLYST		-	dk bn																	
24	6282	1	SLTST		-	dk bn																	
25	6156	1¼	CLYST		-	dk bn																	
26	6042	1¼	SLTST		-	dk bn																	
27	5897	1	SLTST		-	m. bn																	

FORM R 257 3/72

WELL TURRUM-2

GEOLOGIST GILES

SERVICE CO SCHLUMBERGER

ESSO AUSTRALIA LTD.
SIDEWALL CORE DESCRIPTIONS

ATT 30 REC 28

IES RUN NO 3 SWC RUN NO 2 DATE 11/7/74

FORM R 257 3 72

NO. 1a	DEPTH 1	REC 2	ROCK TYPE 3	MODIFIERS 4	CAL 5	COLOR 6	INDUR DEG 7	GRAIN SIZE 8	SRTG 9	RND 10	DISS CLAY 11	STAIN 12	FLOURESCENCE % RK	DISTR 14	INTEN 15	COLOR 16	CUT FLUOR. INTEN 17	COLOR 18	CUT RESIDUE QUAN 19	COLOR 20	SHOW 21	PROB PROD 22	REMARKS - GAS 23
28	5751	1	SLTST		-	lt bn																	
29	5637	1½	CLYST		-	dk bn																	
30	5522	MF																					

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 3

CORE DESCRIPTIONS

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 1

WELL: TURRUM - 2

Interval Cored 4882 to 4894 ft., Cut 12 ft., Recovered 0 ft., (0 %) Fm. LATROBE

Bit Type C 22 FD, Bit Size 8 15/32 X 4 in., Desc. by MAUGHAN & BELLIS Date JUNE 74

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0 4882				
			4882 to 4894	No Recovery.
4887				
4892				
4894				

REMARKS:

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

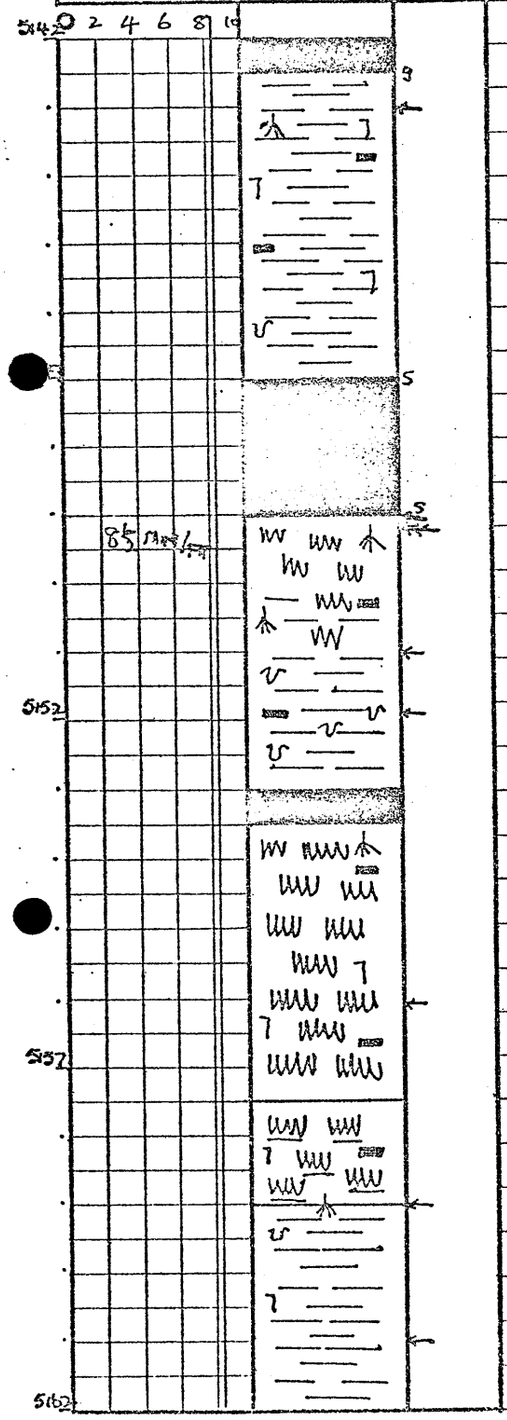
1 of 2

Core No. 2

WELL: TURRUM-2

Interval Cored 5142 to 5172 ft., Cut 30 ft., Recovered 20 ft., (67 %) Fm. LATROBE

Bit Type C22 FD, Bit Size 8 15/32 x 4 in., Desc. by MAUGHAN & BELLIS Date 20/6/74



Interval (ft.)	Descriptive Lithology
5142 - 5142½	COAL - BLACK → BROWN, SILTY
5142½ - 5147	SHALE - GREY → BROWN, FISSILE, PARALLEL BEDDING, MICACEOUS, CARBONACEOUS, SOME F. GR. QTZ ON SURFACE CLAY PELLETS, BURROWING
5147 - 5149	COAL - BLACK, VITREOUS, BITUMINOUS BLEEDING GAS. LESS VITREOUS WITH D
5149 - 5153	SILTSTONE / SHALE - LT. GREY SMALL SCALE RIPPLES EXTREME BIOTURBATION
5153 - 5153½	COAL
5153½ - 5157½	SILTSTONE - CARBONACEOUS BANDS, BIOTURBATED, MICACEOUS, F. GR QTZ ON SURFACE
5157½ - 5159	CLAYSTONE / SHALE - NO OBVIOUS BEDDING, MICACEOUS, FOSSIL IMPRESSIONS
5159 - 5162	SHALE - INCLINED BEDDING, BIOTURBATED MICACEOUS

REMARKS: CORE FELL ONTO DECK DUE TO LARGE SWELL - BOTTOM HALF OUT OF SEQUENCE - PUT INTO APPROXIMATE ORDER

MOST OF TEN FEET LOST PROBABLY FROM SAND AT BOTTOM OF CORE

← CORE CHIP

≪ FORMATION FLUID ANALYSIS - WATER

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

2 of 2

Core No. 2

WELL: TURRUM-2

Interval Cored 5142 to 5172 ft., Cut 30 ft., Recovered 20 ft., (67 %) Fm. LATROBE

Bit Type C 22 FD, Bit Size 8 1/2 x 4 in., Desc. by MAUGHAN + ELLIS Date 20/6/74

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
5162				
			5162 - 5172	No RECOVERY
5172				

REMARKS:

ESSO STANDARD OIL (AUSTRALIA) LTD.

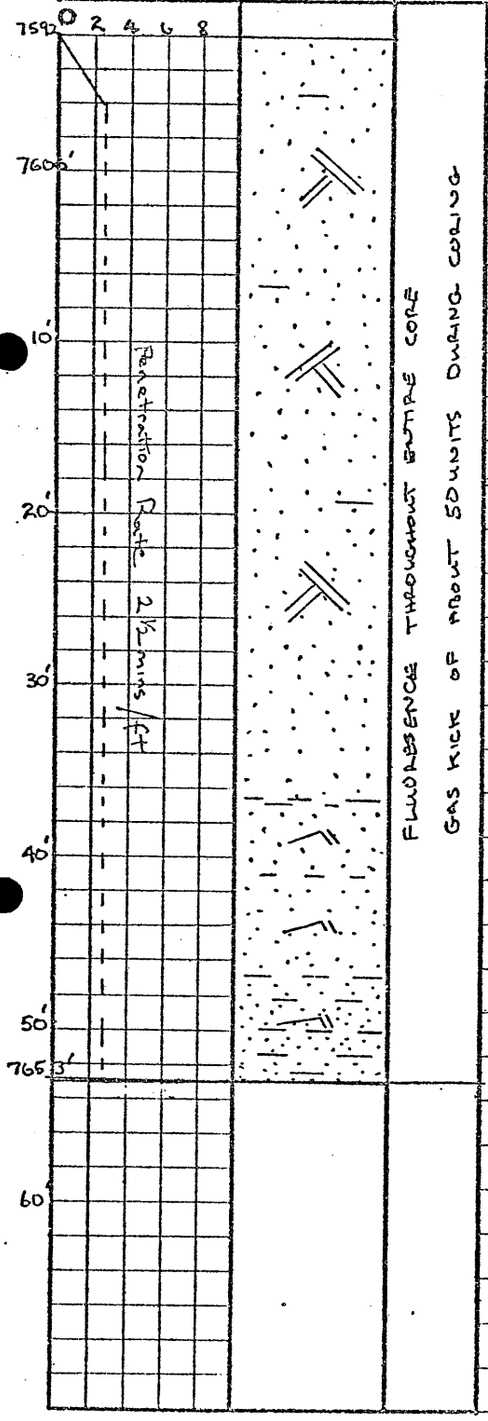
CORE DESCRIPTION

Core No. 3

WELL: TURRUM # 2

Interval Cored 7592 – 7655' ft., Cut 63 ft., Recovered 63 ft., (100 %) Fm. LATROBE

Bit Type C 22, Bit Size 8 15/32 in., Desc. by D. BATTERSBY Date 2-7-74



Interval (ft.) — **Descriptive Lithology**

7592 – 7632' SANDSTONE lt grey – lt brn, fine – med mostly fine gr becoming more medium gr with depth. suba- friable – firm, fair sorting, clay matrix (clay chok sl carb., sl micac, occ. sm amt dolo. cement. porosity generally poor, occasionally fair Abundant pale yellow – dull orange fluoresence with moderate cut.

Shale laminae dark grey, very carb – coaly, micac, silt

Structures: large scale crossbedding

7632 – 7653' SANDSTONE WITH INTERLAMINATED AND INTERBEDDED SHALE

SANDSTONE as above except mostly fine to very fine g poor porosity. SHALE as above. Fluoresence common as above.

Structures small scale – ripple crossbedding.

REMARKS: 61 SAMPLES TAKEN FOR ANALYSIS BY EPRCo

3 samples analysed for φ + Kr at wellsite

7605' 16% and 1968 md

7620' 20% and 2530 md

7651' 18% and 1090 md.

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 4

WELL: TURRUM 2

Interval Cored 8523 - 8529 ft., Cut 6 ft., Recovered 6 ft., (100 %) Fm. LATROBE

Bit Type C-20, Bit Size $8\frac{15}{32}$ in., Desc. by L.T.B. Date 7/7/74

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
8523		Fluor + cut	8523 - 8529	SST. - lt grey, fine - vcse gr, mainly f - med gr. Poorly sorted, choked with fines. Fines gradationally downwards from cse to fine. (predom. grsize) Firm - friable at top - firm at base Occas. carb shale layer, v. common in bottom 8". Occas. burrows thro'out sand Heavily burrowed, shale streaks, pyritic, disturbed bedding in bottom 8". S.ang - S.r. visual ϕ low (→ fair) ϕ from 8523 - 27 fair. No. dol. cement. No obvious bedd'g Str.
8530				Good blue-white fluor & gd cut. Good odour. Retort tr. condensate.
				N.B. (~9") chips of coal - carb shale at top - Cavings??
				BAROID CORE ANAL.
			8526'	ϕ 19.5 %
				S_{gas} 56.6 %
				S_w 39.3 %
				S_o 4.0 %

REMARKS: BLENDER (from 8526') TOTAL GAS 150 units

WET GAS 125 "

CH_4 25 "

C_5 + 15 "

CHROMAT. C_1 tr.

C_2 200 ppm C_4 600 ppm

C_3 500 " C_5 600 "

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 5

WELL: TURRUM 2.

Interval Cored 8529 - 8589 ft., Cut 60 ft., Recovered 64 ft., (107 %) Fm. LATROBE

Bit Type C-20, Bit Size $8\frac{15}{32}$ in., Desc. by L.J.B Date 7/7/74

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
0				
8530 ANALYSIS →		blue-wh fluor gd cut, odour	8529' - 8531½'	SANDSTONE lt gy, med gr, well std, sr, occas. clay pe filling. fair-gd visual φ. Well burr. occas. shale streak
			8531½' - 8535½'	COAL ± SHALE, blk, carb, minor burr. Silt lam. N.B.* at base. Wavy disc. bedd' → // cont. downward
		dull gold fluor. gd cut brown residue	8535½' - 8537½'	SANDSTONE lt gy, vf - cse gr, predom cse gr ē vf s matrix. poor-fair stg. a-sr, Fining upw (predom med gr at top) V low ∠ X beds in middle. Conc. bedd' at top where interbed' s & S. (sand graded). small ripple marks.
ANALYSIS →				
8540		rare dull gold fluor. Occurr decr down	8537½' - 8547'	SHALE black, evenly // bedded, with lt gy silt lam, grad to SILTSTONE; lt gy, trends to v.f. sand at base. Common burrows.
				Thin strings dk br shale, ripple marks, flame structu
8547			8547' - 8566'	SHALE, v thin coal at top. dk br - black shale c v thin (~2mm) lam or lenses of v. pyritic lt gy silt. bedd' contorted at top, common burrows. Burr decr downwards, bedding becomes even // . Common rootlet marks. Flame str' at base of silt lenses.
8550				
8560			8566 - 8571	Thin approx horiz interbeds v. carb SHALE & poorly std graded SANDSTONE beds. Sst f-gra predom f-med. Tight - white clay(?) & v pyr. mudfills Load str' - Soft mud deform" on base & top of shale interbe
8569				

REMARKS:

* N.B 60' cored, 64' recovered. Discrepancy adjusted in interval 8531½' - 8535½' (ie. that shale unit is ~8' thick, not 4')

H/C ANALYSES (from core chips)

	$C_1 - C_6$ TOTAL	$C_3 - C_6$	CHROM.	C_1	C_2	C_3	C_4	C_5
8530'	300 units	300 u		tr	600	3000	3000	500 ppm.
8537'	250 "	250 u		200	200	1000	1400	500 ppm.

ESSO STANDARD OIL (AUSTRALIA) LTD.

CORE DESCRIPTION

Core No. 5 page 2.

WELL: TURRUM 2.

Interval Cored 8529' - 8589' ft., Cut 60' ft., Recovered 64' ft., (%) Fm. LATROBE GP.

Bit Type C-20, Bit Size 8 15/32 in., Desc. by L.J.B. Date 7/7/74

Depth & Coring Rate (min./ft.)	Graphic (1" = 5')	Shows	Interval (ft.)	Descriptive Lithology
8569				Interbedded med gr sst and black shales as above. Gradation down into.
ANALYSIS →			8571'-8587½'	SANDSTONE lt-med gy, firm, f-gran., predom cse gr, poorly std at top - tight - choked with soft white clay(?) and fines. Occas. burr at top; also rootlets - shale 'hairs' penetrating down into the sand from occas v thin shale drapes. Amt shale incr. upwards.
8589				Sst. better sorted and v.sl. cser downwards, sa-r. V gd visual ϕ, sand friable at bottom.
				Indistinct inclined bedd'g - poss. X bedding at 8584'. Max dip on shale drape / inclined bedd'g ~25
			8587½'-8589	SANDSTONE lt gy, f-granular, predom V. cse, poorly std, a-sr, friable, v gd ϕ.
8590				Sands water wet.

REMARKS:

CORE ANALYSES

	ϕ	S_g	S_w	S_a	K (md.)	
8537'	13·8	35·9	57·9	6·0	168	retort yellow waxy oil.
8576'	20·9	32·8	67·1		1268	

Spare

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. TURRUM No. 2

DATE ANALYSIS COMPLETED November 29 1974

Core No.	Sample Depth (feet) From	Sample Depth (feet) To	Lithology	Average Effective Porosity two plugs (% Bulk Vol.	Absolute Permeability (Millidarcy) V	Absolute Permeability (Millidarcy) H	Average Density (gm/cc.) Dry Bulk	Average Density (gm/cc.) Apparent Grain	Fluid Saturation (% pore space) Water	Fluid Saturation (% pore space) Oil	Core Water Salinity (p.p.m. NaCl)	Acetone Test	Fluorescence of freshly broken core	Sample "cut" in tetrachlorethylene
2	5142'9"	5143'0"	Slst; arg aren, carb	15.2	N.D.	0.31	2.28	2.69	16	Nil	N.D.	Nil	Nil	Nil
2	5147'9"	5148'1"	Slst; aren carb	13.9	N.D.	<0.1	2.32	2.70	16	Nil	N.D.	Nil	Nil	Nil
2	5148'6"	5148'8"	as above	14.4	N.D.	0.77	2.32	2.71	11	Nil	N.D.	Nil	Nil	Nil
2	5154'7"	5155'0"	Slst; aren pyr.	14.9	<0.1	0.30	2.29	2.71	15	Nil	N.D.	Nil	Nil	Nil
2	5161'3"	5161'10"	Slst; carb	11.1	<0.1	0.11	2.41	2.71	22	Tr	N.D.	Nil	Nil	Nil
5	8542'7"	8543'0"	Sst; v.f.gr sh. lam.	7.9	<0.1	2.5	2.44	2.65	26	Nil	N.D.	Tr	Faint irregular yellow	Trace
5	8568'0"	8568'5"	Sh; with sst; c.gr	6.9	N.D.	2.2	2.47	2.68	25	Tr.	N.D.	Tr.	as above	Trace
5	8574'0"	8574'6"	Sst; m.gr to v.c.gr	14.2	N.D.	53	2.27	2.64	3.9	Tr	N.D.	Tr.	Faint spotted yellow	Trace

Remarks: -

General File No. 74/1076

Well File No. _____

ADDED BY DNRE 24/5/99

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. TURRUM No. 2

DATE ANALYSIS COMPLETED November 29 1974

Core No.	Sample Depth (feet)		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				
5	8580'0"	8580'6"	Sst; c.gr	18.7	670	2300	2.14	2.63	0.7	Tr	N.D.	Tr.	Faint spotted yellow	Nil
5	8581'6"	8582'0"	Sst; c.gr	19.3	1260	1110	2.14	2.65	12	Tr	N.D.	Tr	as above	Nil
5	8584'0"	8584'6"	Sst; m.gr to c.gr.	21.0	302	1390	2.11	2.67	0.4	Tr	N.D.	Nil	very faint spotted yellow	Tr
5	8586'0"	8586'6"	Sst; m.gr. to c.gr.	17.2	1450	2000	2.20	2.66	0.3	Tr	N.D.	Nil	as above	Tr

Remarks: -

General File No. 74/1076
Well File No. _____

Petrography: TECHNICAL DATA

Well: Turrum 2 Sample No.: 75682 Depth: 8527'

HANDSPECIMEN DESCRIPTION: medium grained sandstone

THINSECTION DESCRIPTION:

Detrital Mineralogy:

monocrystalline qtz 40%
Polycrystalline qtz 20%
feldspar 10%
Lithics 20%
Glauconite ~5%

Textural Characteristics:

Grainsize varies from v. large detrital qtz components to finer angular framework ∴ Sorting is poor. Compaction is evident.

Post-depositional Adjustments:

Kaolinite replacement of lithics
Sucrosic siderite replaces lithics
Glauconitization of feldspar
Hydrocarbon pore linings
feldspar o.g.

Paragenetic Relations:

1. Compaction
2. Feldspar o.g. + glauconitization
3. Siderite ppt^{n}
4. Kaolinite ppt^{n} / replacement of lithics
5. Hydrocarbon emplacement.

Key Features:

ADDED BY DNRE

2/5/99

Petrography:

Well: Turrum 2 Sample No.: 75677 Depth: 7632'

HANDSPECIMEN DESCRIPTION: v. fine grained sandstone.

THINSECTION DESCRIPTION:

Detrital Mineralogy:

Monocrystalline qtz 55%
Polycrystalline qtz 20%
Feldspar 15%
Lithics 10%

Textural Characteristics:

Extremely fine grained sandstone
angular grains
Moderate
Triple junctions b/w qtz grains

Post-depositional Adjustments:

Kaolinite infilling porespace

Qtz o.g. + cement
Feldspar o.g.
Kaolinite replacing lithics
Siderite replacement of framework
Muscovite is been around qtz

Paragenetic Relations:

1. Compaction
2. Feldspar o.g.
3. Siderite
4. Qtz o.g. + cement
5. Kaolinite

Key Features:

* 2° ϕ is minor and is due to incomplete siderite ppt^n and Kaolinite ppt^n in pore space

Petrography:

Well: Turrum 2 Sample No.: 75675 Depth: 7605'

HANDSPECIMEN DESCRIPTION: Medium grained sandstone.

THINSECTION DESCRIPTION:

Detrital Mineralogy:

Monocrystalline qtz 55%
Polycrystalline qtz 10%
Felaspar 10%
Rock fragments 20%
Muscovite < 5%

Textural Characteristics:

Grainsize varies from coarse, well rounded grains to fine angular

Sorting is poor

Post-depositional Adjustments:

Glauconitization (despite initiating pre-depositionally)
Felaspar o.g.
Compaction ← muscovite molded about qtz.
Kaolinite replacement of lithics

Paragenetic Relations:

1. Glauconitization
2. Compaction
3. Felaspar o.g
4. Kaolinite replacement of lithics

Key Features:

Petrography:

Well: Turrum 2 Sample No.: 75671 Depth: 5154'

HANDSPECIMEN DESCRIPTION: medium grained arenite.

THINSECTION DESCRIPTION:

Detrital Mineralogy:

Polycrystalline qtz 25%
Monocrystalline qtz 35%
feldspar 20%
Rock fragments 15%

Textural Characteristics:

Medium grained
line contacts b/w qtz grains
moderate to poor sorting

Post-depositional Adjustments:

Dolomite cement
feldspar o.g.
Hydrocarbon pore linings
Qtz o.g. + cement
Kaolinite pore filling

Paragenetic Relations:

1. feldspar o.g.
2. Dolomite cement
3. Dissolution
4. Qtz o.g. + cement
5. Hydrocarbon emplacement.
6. Kaolinite pore filling.

Key Features:

* This slide exhibits virtually a complete sequence of diagenetic adjustments

	TURRUM-2	MARLIN-A6		TURRUM-1			MACLIN-A18	
	75675	75686	75700	75731	75733	75737	75751	75755
Monocrystalline quartz	36.4	33.2	35.2	32.0	38.0	48.7	50.6	48.06
Polycrystalline quartz	16.6	18.0	5.2	5.33	12.6	9.6	10.0	21.2
Feldspar	2.8	2.8	3.0	2.0	2.6	4.7	1.2	0.52
Lithics	2.2	15.6	6.2	1.33	9.2	5.8	2.4	1.04
Carbonate	—	16.8	31.6	0.66	—	—	27.2	13.17
Mica	1.33	1.6	3.4	1.33	1.4	—	—	0.26
ϕ	8.6	1.4	0.8	2.67	12.4	—	8.4	12.14
Undifferent[d] matrix	23.4	8.0	13.4	40.67	20.0	27.33	0.20	0.52
Hydrocarbon	—	0.4	1.2	—	3.4	3.2	—	3.1
Accessories	8.67	0.2	—	14.0	0.4	0.67	—	—

Table 1: Compositions of Latrobe Group Sediments.

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 4

WELL LOG ANALYSIS

WELL LOG ANALYSIS REPORT

TO WELL FILE
cc. W.W. FRASER (2), C.N. CURNOW, P.C. HALL

OPERATOR ESSO AUSTRALIA WELL TURRUM #2 DATE JUNE 25, 1974

STATE VICTORIA ELEV. KB 32'

DEPTH INTERVAL	POROSITY ESTIMATE	WATER SAT. ESTIMATE	REMARKS
5082-86 (4	28 -29.5	10	Gas productive
5086-88 (2	27.5-29	11-12	Gas productive
5088-91 (3	30 -32	11-12	Gas productive
5091-93 (2	28 -29.5	13-14	Gas productive
5093-97 (4	30 -31.5	7	Gas productive
5097-99 (2	27.5-29	15	Gas productive
5099-5103 (4	29 -30.5	12-13	Gas productive
5116-20 (4	26 -27.5	20-22	Gas productive
5167-73 (6	25.5-27	20-21	Gas productive
5173-77 (4	25 -26.5	24-26	Oil productive
5177-82 (5	29 -30.5	19-20	Oil productive
[illegible]-87 (5	23.5-25	61-66	Water productive
[illegible]-93 (6	30 -31.5	62-66	Water productive
5267-76 (9	29.5-31	75-77	Water productive

ISF DEPTHS

TESTS:

—

FORMATION:

LATROBE

LOGS:

ISF-SCT, GR-CNL-FDC

COMMENTS:

WELL LOG ANALYSIS REPORT

Form R167 6/70
Page 1

TO WELL FILE
c.c. W.W. FRASER (2) C.N. CURNOW

OPERATOR ESSO AUSTRALIA WELL TURRUM-2 DATE July 9, 1974.

STATE VICTORIA ELEV. 32' KB

DEPTH INTERVAL		POROSITY ESTIMATE	WATER SAT. ESTIMATE	REMARKS
5890-93	(3	27.2	22	Gas productive
5931-34	(3	25.8	28	Gas productive
6486-94	(8	21.4	27	Gas productive
6499-02	(3	23.7	16	Gas productive
6502-04	(2	24.7	13	Gas productive
6504-07	(3	24.3	21	Gas productive
6629-33	(4	23.1	26	Gas productive
6754-56	(2	25.4	24	Gas productive
6955-57	(2	21.3	31	Gas productive
6964-75	(11	21.6	17	Gas productive
6975-78	(3	23.2	21	Gas productive
69[illegible]-86	(7	22.8	18	Gas productive
71[illegible]-87	(3	23.1	22	Gas productive
7567-76	(9	21.3	18	Gas productive
7579[illegible]	(4	20.6	20	Gas productive
7583-88	(5	23.1	16	Gas productive
7588-02	(14	19.5	22	Gas productive
7602-06	(4	23.1	18	Gas productive
7609-26	(17	23.1	17	Gas productive
7626-34	(8	20.6	25	Gas productive
7748-54	(6	21.3	20	Possibly oil productive
7774-78	(4	21.0	17	Gas productive
7782-90	(8	24.4	8	Gas productive
7802-06	(4	22.1	17	Gas productive
7808-12	(4	22.0	16	Gas productive
7813-15	(2	21.5	20	Gas productive
7907-14	(7	18.2	42	Effectiveness questionable
8041-43	(2	22.5	29	Gas productive
8158-62	(4	22.8	10	Gas productive
8162-65	(3	22.4	12	Gas productive
[illegible]-79	(2	18.3	20	Gas productive
8181-84	(3	20.6	13	Gas productive
8184[illegible]	(4	22.0	12	Gas productive
8204-07	(3	23.0	13	Gas productive
8217-20	(3	19.5	17	Gas productive

(see page 2)

TESTS:

SEE F.I.T. RESULTS

FORMATION:

LATROBE

LOGS:

ISF-SCT, CNL-FDC-GR

COMMENTS:

Porosity estimates were made from one set of average log values for each level. The nature of corrections for shaliness and hydrocarbon content are such than one value results. This value is reported above and does not imply greater accuracy than when ranges of values are reported as is the normal case.

BY R.B. KING

WELL TURRUM-2

DEPTH INTERVAL	POROSITY ESTIMATE	WATER SAT. ESTIMATE	REMARKS
8412-14 (2	16.4	33	Gas productive
8420-24 (4	18.2	20	Gas productive
8424-30 (6	21.0	12	Gas productive
8430-36 (6	19.3	16	Gas productive
8436-41 (5	19.2	9	Gas productive
8443-51 (8	21.3	5	Gas productive
8451-59 (8	20.3	10	Gas productive
8459-63 (4	22.3	10	Gas productive
8465-70 (5	17.8	10	Gas productive
8470-81 (11	18.8	4	Gas productive
8481-86 (5	21.3	6	Gas productive
8496-99 (3	16.7	47	Effectiveness questionable
8499-05 (6	15.6	24	Gas productive
8505-19 (14	16.5	28	Probably oil productive
8519-24 (5	18.6	36	Probably oil productive
8524-31 (7	15.5	49	Effectiveness questionable
8573-75 (2	16.5	78	Water productive
8575-78 (3	18.3	87	Water productive
8578-85 (7	21.3	100	Water productive
8585-88 (3	18.3	100	Water productive
8[illegible]3-92 (4	19.5	100	Water productive
8592-03 (11	18.3	100	Water productive
8[illegible]-23 (7	16.4	30	Possibly oil productive
8625-30 (5	17.0	32	Possibly oil productive
8630-36 (6	15.2	40	Possibly oil productive
8636-45 (9	12.2	61	Non-effective

ISF DEPTHS

TURRUM-2

QUANTITATIVE LOG ANALYSIS

Interval: 1525-2665m KB

Analyst : L.J. Finlayson

Date : September, 1984

ADDED BY DNRE

21/5/99

TURRUM #2 QUANTITATIVE LOG ANALYSIS

SUMMARY

Turrum #2 wireline logs have been analysed for effective porosity and water saturation over the interval 1525-2665m KB. Analysis was carried out using a reiterative technique which incorporates hydrocarbon correction to the porosity logs, density-neutron crossplot porosities, a Dual Water saturation relationship and convergence on a preselected grain density window by shale volume adjustment.

Logs Used

ILD, GR, RHOB (FDC), NPHI, CAL.

The neutron porosity log was corrected for borehole and environmental effects.

The ILD log is regarded as RT.

The FDC-CNL log is "on depth" with the ILD log.

Log Quality

All logs appear to be of good quality.

Analysis Parameters

a	1
m	2
N	2
Rmf at 20.5° C	0.392 ohm.m
Grain Density - lower limit	2.65 gm/cc
Grain Density - upper limit	2.67 gm/cc
Mud Filtrate Density (RHOF)	1.00 gm/cc
Bottom Hole Temperature	96° C
"Z"	0.4

Depth Interval (m KB)	RHOBSH (gm/cc)	NPHISH	RSH
1525 - 1765	2.45	0.37	8
1765 - 2165	2.50	0.34	5
2165 - 2665	2.55	0.32	15

Shale Volume

An initial estimate of VSH was calculated from density-neutron separation:

$$VSH = \frac{NPHI - \frac{2.65 - RHOB}{1.65}}{NPHISH - \frac{2.65 - RHOBSH}{1.65}} \quad - 1$$

Total Porosities

Total porosity was initially calculated from the density-neutron log using the following algorithms:

$$h = 2.71 - RHOB + NPHI\ (RHOF - 2.71) \quad - 2$$

if h is greater than 0, then

$$\text{apparent matrix density, } RHOMa = 2.71 - h/2 \quad - 3$$

if h is less than 0, then

$$\text{apparent matrix density, } RHOMa = 2.71 - 0.64h \quad - 4$$

$$\text{Total porosity: } PHIT = \frac{RHOMa - RHOB}{RHOMa - RHOF} \quad - 5$$

where RHOB = environ. corrected bulk density in gms/cc
NPHI = environ. corrected neutron porosity in limestone porosity units.
RHOF = fluid density (1.0 gms.cc)

Free Formation Water (Rw) and Bound Water (Rwb) Resistivities

$$Rwa = Rt * PHIT^{m} \quad (m = 2) \quad - 6$$

Free formation water resistivity (Rw) was taken from the clean, water sand Rwa. Bound water resistivity (Rwb) was calculated from the input shale resistivity value (RSH), read directly from the Rt log.

In hydrocarbon zones where no water sands were available, the SP was useful in determining Rw and salinity.

Listed below are the selected salinity values.

Depth Interval (m)	Salinity (ppm NaCleq.)
1525-1580	35,000
1580-1750	10,000
1750-2300	35,000
2300-2415	60,000
2415-2425	17,000
2425-2530	60,000
2530-2560	17,000
2560-2625	60,000
2625-2665	30,000

Water Saturations

Water saturations were determined from the Dual Water model using the following relationships:

$$\frac{1}{Rt} = SwT^{n} * \left(\frac{PHIT^{m}}{aRw}\right) + SwT^{(n-1)} \left[\frac{Swb * PHIT^{m}}{a}\left(\frac{1}{Rwb} - \frac{1}{Rw}\right)\right] \quad - 7$$

where: SwT is "total" water saturation

and Swb (bound water saturation) $= \frac{VSH * PHISH}{PHIT}$ - 8

where: PHISH = total porosity in shale derived from density-neutron crossplot.

with a = 1
m = 2
n = 2

No Rxo log was available thus SxoT was calculated using the relationship:

$$SxoT = SwT^{z} \quad (z = 0.4) \qquad -9$$

Hydrocarbon correction to the porosity logs utilised the following algorithms:

$$RHOB = RHOB\ (raw) + 1.07\ PHIT\ (1-SxoT)\ [(1.11-0.15P)RHOF - 1.15RHOH] \qquad -10$$

(Hydrocarbon corrected)

$$NPHI = NPHI(raw) + 1.3\ PHIT\ (1-SxoT)\ \frac{RHOF(1-P-1.5RHOH + 0.2}{RHOF\ (1-P)} \qquad -11$$

where P = mud filtrate salinity in parts per unity
RHOF = mud filtrate density
RHOH = hydrocarbon density (0.25 gm/cc for gas and 0.70 gm/cc for oil or water)

The calculated "grain density" was derived by removing the shale component from the rock using the following algorithms:

$$RHOBSC = \frac{RHOB\ (hydocarbon\ corrected) - VSH * RHOBSH}{1-VSH} \qquad -12$$

$$NPHISC = NPHI\ \frac{(hydrocarbon\ corrected) - VSH * NPHISH}{1-VSH} \qquad -13$$

The shale corrected density and neutron values were then entered into the cross-plot algorithms (equations 3, 4 and 5) to derive grain density (RHOG).

If calculated RHOG fell inside the specified grain density window, then PHIE and Swe were calculated as follows:

$$PHIE = PHIT - VSH * PHISH \qquad -14$$

$$Swe = 1 - \frac{PHIT}{PHIE}\ (1-SwT) \qquad -15$$

If VSH was greater than 0.60, Swe was set to 1 and PHIE set to zero.

If the calculated RHOG fell outside the specified grain density window, VSH was adjusted appropriately and the process repeated.

Coals and carbonaceous shales were edited for an output of VSH = 0, PHIE = 0 and Swe = 1.

Comments

1. The following hydrocarbons systems have been interpreted from the wireline logs and mudlog. These are as follows:

1549.00 - 1577.00m KB	Gas (9.25 net sand) G.O.C. @ 1577.0m
1577.25 - 1580.00m KB	Oil (2.75 net sand) O.W.C. @ 1580.0m
1580.25 - 1677.75m KB	Water (30.0m net sand)

1704.75 - 1809.50m KB	Gas (5.5m net sand) G.W.C. ? @ 1809.75
1916.75 - 2412.75m KB	Gas (52.25m net sand) G.W.C.? between 2413.0 and 2417.75m
2418.00 - 2422.75m KB	Water (4.75m net sand)
2451.00 - 2524.50m KB	Gas (10.75 net sand) G.W.C. ? between 2524.75 and 2550.75m
2551.00 - 2552.00m KB	Water (1.0m net sand)
2563.00 - 2592.50m KB	Gas (25.5m net sand) G.O.C. @ 2592.5m
2592.75 - 2599.50m KB	Oil (6.75m net sand) O.W.C. between 2599.75 and 2612.75m
2613.00 - 2621.75m KB	Water (8.75m net sand)
2626.25 - 2634.00m KB	Gas (7.75m net sand) G.W.C. @ 2634.0m
2634.25 - 2658.50m KB	Water (17.75m net sand)

(See Summary Table or Listing for further details of the log analysis results.)

2. This analysis confirms the previous Turrum #2 analysis with the only significant differences being the identification of approximately 25m more net gas sand in the "Paleocene" section and the identification of possible hydrocarbon-water contacts.

3. Water saturations should be treated with caution as Rt is derived from an Induction Log which is notoriously unreliable in high resistivity zones (oil and in particular gas).

Attachments

1. Listing of Results
2. Porosity - Saturation Depth Plot

19061/68-72

TURRUM # 2

SUMMARY OF RESULTS

Depth Interval m KB	Gross Thickness (m)	* Net Thickness (m)	*Porosity Average	*Swe Average	Fluid Content
1549.00 - 1555.50	6.50	6.50	0.316±.052	0.204	Gas
1559.50 - 1560.50	1.00	1.00	0.233±.056	0.268	Gas
1575.25 - 1577.00	1.75	1.75	0.243±.040	0.251	Gas
1577.25 - 1580.00	2.75	2.75	0.269±.038	0.289	Oil
1580.25 - 1581.50	1.25	1.25	0.288±.032	0.789	Water
1603.50 - 1608.00	4.50	4.50	0.249±.055	0.994	Water
1617.75 - 1621.75	4.00	4.00	0.199±.046	1.000	Water
1626.75 - 1642.00	15.00	15.00	0.194±.045	1.000	Water
1672.00 - 1677.75	5.75	5.25	0.154±.037	1.000	Water
1704.75 - 1707.00	2.25	2.25	0.178±.021	0.668	Gas
1795.25 - 1796.50	1.25	1.25	0.239±.057	0.326	Gas
1807.50 - 1809.50	2.00	2.00	0.193±.061	0.366	Gas
1916.75 - 1917.25	0.50	0.50	0.118±.015	0.618	Gas
1977.00 - 1983.75	6.75	4.25	0.206±.060	0.248	Gas
2058.50 - 2059.75	1.25	1.25	0.170±.051	0.327	Gas
2119.25 - 2130.75	11.50	10.25	0.200-.049	0.346	Gas
2136.50 - 2139.50	3.00	3.00	0.156±.020	0.601	Gas
2189.75 - 2190.75	1.00	1.00	0.202±.053	0.272	Gas
2307.00 - 2327.50	20.50	18.50	0.176±.050	0.163	Gas
2361.75 - 2362.50	0.75	0.75	0.164±.042	0.153	Gas
2369.00 - 2374.00	5.00	4.50	0.200±.053	0.147	Gas
2377.75 - 2382.75	5.00	5.00	0.189±.050	0.167	Gas
2408.75 - 2412.75	4.00	3.25	0.137±.019	0.374	Gas
2418.00 - 2422.75	4.75	3.00	0.128±.020	1.000	Water
2451.00 - 2451.50	0.50	0.50	0.195±.026	0.184	Gas
2485.50 - 2488.50	3.00	2.50	0.202±.054	0.118	Gas
2492.25 - 2496.00	3.75	3.75	0.168±.048	0.138	Gas
2501.00 - 2506.25	5.25	3.50	0.153±.050	0.130	Gas
2524.00 - 2524.50	0.50	0.50	0.112±.003	0.201	Gas
2551.00 - 2552.00	1.00	1.00	0.125±.012	1.000	Water
2563.00 - 2587.75	24.75	23.25	0.192±.037	0.148	Gas
2590.25 - 2592.50	2.25	2.25	0.157±.023	0.258	Gas
2592.75 - 2599.5	6.75	6.75	0.146±.018	0.256	Oil
2613.00 - 2621.75	8.75	8.75	0.186±.019	0.900	Water
2626.25 - 2634.00	7.75	7.75	0.145±.026	0.585	Gas
2634.25 - 2635.75	1.50	1.50	0.107±.004	0.983	Water
2638.00 - 2643.25	5.25	5.25	0.135±.019	1.000	Water
2646.25 - 2658.50	12.25	11.00	0.128±.016	1.000	Water

* Net Porosity Thickness, Porosity Average and Swe Average refer to zones with calculated porosities in excess of 10%.

19061/73

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 5

FORMATION TEST RESULTS

AGNEW-GO-WESTERN PTY LTD
582 St Kilda Road.
Melbourne, Victoria 3004.

ESSO AUSTRALIA LTD

TURRUM

TURRUM No 2.
June 21, 1974

F.I.T. No 1 @ 5171' M.D.

Mud run - no results.

F.I.T. No 2 @ 5173' M.D.

Mud run (run 2 feet below F.I.T. No 1)
No results.

By; Arthur Rice

AGNEW-GO-WESTERN PTY LTD
582 St Kilda Road.
Melbourne, Victoria 3004

ESSO AUSTRALIA LIMITED | TURRUM | TURRUM No 2.
June 22, 1974

Purpose: Obtain subsurface pressures with Amerada gauges run in tandem with Schlumberger Formation Interval Tester.

Tools used:
Amerada 11,800 psi Element Serial No 8282 12 hour clock
Amerada 10,300 psi Element Serial No 9403 12 hour clock

F.I.T. No 3 @ 5177' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0415			Run in hole
0448	2928.1	2928.1	Initial Hydrostatic
0449	513.5	474.1	Set tool and sample(Reverse file)
0450	513.5	453.1	
0451	507.2	453.1	
0452	501.0	453.1	Tool blocked on tight formation
0501	501.0	453.1	
0502			Fire shaped charge
0503	2295.7	2281.9	
0527	2295.7	2281.9	Seal sample chamber and open segregator Seal broken- Hydrostatic
0528			Seal segregator
0529	2928.1	2928.1	Final Hydrostatic

By; Arthur Rice.

AGNEW-GO-WESTERN PTY. LTD.
582 St. Kilda Road
Melbourne, Victoria 3004

ESSO AUSTRALIA LIMITED | TURRUM | TURRUM No. 2
June 22, 1974

Purpose: Obtain subsurface pressures with Amerada gauges run in tandem with Schlumberger Formation Interval Tester.

Tools used: Amerada 11,800 psi Element Serial No. 8282 12 hour clock
Amerada 10,300 psi Element Serial No. 9403 12 hour clock

F.I.T. No. 4 @ 5271' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0713			Run in hole
0800	2989.6	2985.4	Initial Hydrostatic
0801			Reverse set tool (sample then set)
0802	2338.6	2307.9	Sample pressure
0810	2338.6	2307.9	Sample pressure
0811	2357.0	2334.0	
0812	2369.3	2339.2	
0813	2369.3	2339.2	Formation pressure - final shut in
0826	2369.3	2339.2	Seal sampler - open segregator
0827	2369.3	2339.2	Seal segregator
0828	2338.6	2344.39	Pseudo shut in
0832	2338.6	2344.39	Release tool
0833	2971.1	2975.0	Final Hydrostatic

F.I.T. No. 5 @ 5089' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0952			Run in hole
1027	2810.7	2879.0	Initial Hydrostatic
1028			Set tool and sample - reverse fire
1030	2292.3	2301.8	
1050	2292.3	2301.8	Seal sample and open segregator
1051			Seal failure. Seal segregator
1053	2870.7	2879.0	Final Hydrostatic

AGNEW-GO-WESTERN PTY LTD.
532 ST. KILDA ROAD
MELBOURNE VICTORIA 3004

ESSO AUSTRALIA LIMITED

TURRUM

TURRUM NO. 2
JULY 9, 1974

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH AMERADA GAUGES RUN IN TANDEM WITH SCHLUMBERGER FORMATION INTERVAL TESTER.

TOOLS USED: AMERADA 11,800 PSI ELEMENT SERIAL NO 8282 12 HOUR CLOCK
AMERADA 10,300 PSI ELEMENT SERIAL NO 9403 12 HOUR CLOCK

F.I.T. NO. 6 @ 8512' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
2212			RUN IN HOLE
2213			SET TOOL AT 8512
2214	4379.6	4368.4	INITIAL HYDROSTATIC
2215			OPEN SAMPLER
2216	1376.9	1355.3	
2217	1376.9	1251.3	
2218	1321.9	1225.2	
2219	1273.0	1209.6	
2220	1218.0	1188.8	
2221	1218.0	1188.8	
2222	1218.0	1188.8	
2223	1218.0	1188.8	
2224	2651.7	1188.8	
2225	3733.6	3731.4	
2231	3233.6	3731.4	SEAL SAMPLER, OPEN SEGREGATOR.
2233	3739.8	3741.8	
2235	3739.8	3741.8	SEGREGATOR SEAL
2236	4330.4	4368.4	FINAL HYDROSTATIC

BY: ARTHUR RICE

AGNEW-GO-WESTERN PTY LTD
582 ST. KILDA ROAD
MELBOURNE VICTORIA 3004

ESSO AUSTRALIA LIMITED — TURRUM — TURRUM NO. 2
JULY 9 & 10, 1974

PURPOSE: Obtain subsurface pressures with Amerada Gauges run in Tandem with Schlumberger Formation interval tester.

TOOLS USED: Amerada 11,800 psi, Element Serial No 8282 12 hour clock
Amerada 10,300 psi Element Serial No 9403 12 hour clock

F.I.T. NO.7 @ 8480' M.D.

	HOURS	PSIG 11,800	PSIG 10,300	REMARKS
9.7.74	2340			Run in hole
10.7.74	0018			Set tool at depth
	0019	4330.4	4331.8	Initial Hydrostatic
	0020			Open sampler
	0022	3659.8	3674.0	
	0025	3659.8	3674.0	
	0026	3702.9	3710.5	Seal sampler, open segregator
	0032	3696.7	3715.7	
	0034	3696.7	3715.7	Seal segregator
	0034	4305.8	4321.4	Final Hydrostatic
	0035			Release Tool

F.I.T. NO 8 @ 7642 24' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0140			Run in hole
0219			Set tool
0220	3875.1	3882.7	Initial Hydrostatic
0221			Open sampler
0222	3327.7	3340.0	
0224	3327.7	3340.0	
0225	3376.9	3387.0	
0231	3376.9	3387.0	Seal sampler, open segregator
0237	3376.9	3387.0	Seal segregator
0238	3856.7	3872.3	Final Hydrostatic
0239			Release tool

BY: ARTHUR RICE.

AGNEW-GO-WESTERN PTY. LTD.
582 ST. KILDA ROAD
MELBOURNE VICTORIA 3004.

ESSO AUSTRALIA LIMITED | TURRUM | TURRUM NO 2. JULY 10, 1974

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH AMERADA GAUGES RUN IN TANDEM WITH SCHLUMBERGER FORMATION INTERVAL TESTER.

TOOLS USED: AMERADA 11,800 PSI ELEMENT SERIAL No 8282 12 HOUR CLOCK
AMERADA 10,300 PSI ELEMENT SERIAL No 9403 12 HOUR CLOCK

F.I.T. NO. 9 @ 7750' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0345			RUN IN HOLE
0426			SET TOOL
0427	3930.5	3940.2	INITIAL HYDROSTATIC
0428			OPEN SAMPLER
0429	507.2		
0430	507.2		CHART UNREADABLE
0431	507.2		
0432	507.2		FIRE SHAPED CHARGE
0433	3419.9	3433.9	
0434	3419.9	3433.9	
0435	3444.5	3460.0	
0438	3444.5	3460.0	SEAL SAMPLER OPEN SEGREGATOR
0442	?		SEAL FAILED ON SEGREGATOR
0444	3930.5	3929.7	FINAL SEGREGATOR

F.I.T. NO 10 @ 6981' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0545			RUN IN HOLE
0629			SET TOOL
0630	3555.2	8564.4	INITIAL HYDROSTATIC
0631	2854.4	2870.7	OPEN SAMPLER
0634	2854.4	2865.5	
0635	2848.2	2865.5	
0636	3057.2	3063.6	
0637	3057.2	3074.0	
0638	3057.2	3079.3	
0639	3063.3	3079.3	
0640	3063.3	3079.3	SEAL SAMPLER, OPEN SEGREGATOR
0642	3063.3	3079.3	SEAL SEGREGATOR
0643	3549.1	3569.6	FINAL HYDROSTATIC
0644			RELEASE TOOL.

BY: ARTHUR RICE.

AGNEW-GO-WESTERN PTY LTD
582 ST. KILDA ROAD
MELBOURNE VICTORIA 3000

SSO AUSTRALIA LIMITED — TURRUM — TURRUM NO. 2
JULY 10 1974.

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH AMERADA GAUGES RUN IN TANDEM WITH SCHLUMBERGER FORMATION INTERVAL TESTER.

TOOLS USED: AMERADA 11,800 PSI ELEMENT SERIAL NO 8282 12 HOUR CLOCK
AMERADA 10,300 PSI ELEMENT SERIAL NO 9403 12 HOUR CLOCK

F.I.T. NO 1 @ 8503' M.D.

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
0950			RUN IN HOLE
1129			SET TOOL
1130	4342.7	4352.7	INITIAL HYDROSTATIC
1131	1224.1	1230.5	OPEN SAMPLER
1132	1340.2	1339.7	
1133	1352.4	1360.5	
1134	1358.6	1360.5	
1135	1352.4	1360.5	
1136	1352.4	1360.5	
1137	1389.1	1396.9	
1138	1658.3	1667.5	
1139	1897.1	1912.2	
1140	2123.9	2136.1	
1141	2320.2	2323.6	
1142	2473.6	2479.8	
1143	2596.4	2610.1	
1144	2608.7	2620.5	
1145	2805.2	2818.6	
1146	2958.8	2969.8	
1147	3094.1	3110.5	
1148	3217.0	3214.8	
1149	3346.1	3360.9	
1150	3395.3	3907.8	
1151	3438.4	3449.6	
1152	3493.7	3501.8	
1153	3536.8	3548.7	
1154	3567.5	3574.8	
1155	3604.4	3611.3	
1156	3635.2	3627.0	
1157	3647.5	3637.4	
1158	3659.8	3653.1	

(CONT..)

AGNEW-GO-WESTERN PTY LTD
582 ST. KILDA ROAD
MELBOURNE VICTORIA 3004

ESSO AUSTRALIA LIMITED

TURRUM

TURRUM NO. 2
JULY 10 1974

F.I.T. NO 1 @ 8503' M.D.
(CONT...)

HOURS	PSIG 11,800	PSIG 10,300	REMARKS
1159	3672.1	3674.0	
1200	3684.4	3694.8	
1201	3690.6	3694.8	
1202	3690.6	3694.8	
1203	3690.6	3694.8	
1204	3690.6	3694.8	
1205	3696.7	3694.8	
1206	3696.7	3694.8	
1207	3693.7	3694.8	
1208	3696.7	3700.0	SEAL SAMPLER
1209	4336.6	4331.8	FINAL HYDROSTATIC
1210			RELEASE TOOL.

BY: ARTHUR RICE.

AGNEW-GO-WESTERN PTY LTD
582 ST. KILDA ROAD,
MELBOURNE VICTORIA 3004.

ESSO AUSTRALIA LIMITED | TURRUM | TURRUM NO 2
JULY 10, 1974

PURPOSE: OBTAIN SUBSURFACE PRESSURES WITH AMERADA GAUGES RUN IN TANDEM WITH SCHLUMBERGER FORMATION INTERVAL TESTER.

TOOLS USED: AMERADA 10,300 PSI ELEMENT SERIAL No 9403 12 HOUR CLOCK

F.I.T. NO 12.

NO RESULTS.

F.I.T. NO 13 @ 8581' M.D.

HOURS	PSIG 10,300	REMARKS
0306		RUN IN HOLE
0357		SET TOOL
0358	4384.1	INITIAL HYDROSTATIC
0359		OPEN SAMPLER
0401	3700.0	
0403	3700.0	
0404	3757.5	
0405	3767.9	
0413	3767.9	FIRE SHAPED CHARGE
0414	3778.3	
0418	3778.3	SEAL SAMPLER
0420		RELEASE TOOL
0421	4363.2	FINAL HYDROSTATIC

BY: ARTHUR RICE.

FIT #1 5171 feet
Mud Run

FIT #2 5172.5 feet
Mud Run

FIT #3 5177 feet — Shape Charge Fired

1450 p.s.i.	FIT tool pressure	Segregator Seal Failed
65.4 cu. ft.	Gas	
12000 c.c.	Condensate - Brown, A.P.I. unreadable	
2450 c.c.	Mud	

GAS

C1	170,000
C2	35,000
C3	15,000
C4	5,600
C5	600
CO2	300

FIT #4 5271 feet — Full Segregator

500 p.s.i.	FIT tool pressure
3.15 cu. ft.	Gas
2450 c.c.	Mud
19,050 c.c.	Water

GAS

C1	115,000
C2	97,500
C3	70,000
C4	23,600
C5	2,800
CO2	200

Cl^-	2900 / 3400
NO_3^-	0 / 50
SL	.98 @ 68° / .78 @ 71°

FIT #5 5089 feet — Segregator Seal Failed

1000 p.s.i.	FIT tool pressure
157.3 cu. ft.	Gas
2750 c.c.	Mud and Condensate Trace

GAS

C1	170,000
C2	26,000
C3	18,000
C4	8,900
C5	2,100
CO2	200

STEAM HEATED MUD AND CONDENSATE TRACE

C1	9,000
C2	6,000
C3	70,000
iso C4	54,000
normal C4	97,000
C5	32,000
Cl^-	3,000
NO_3^-	unreadable
SL	.79 @ 68°

MUD DATA

Cl^-	72 ppm
NO_3^-	200 ppm

PIT 3 @ 5177 ~~5189~~ FEET (IES Log Depth) GEOLOGIST _____

DATE: 22/6/74

MUD DATA: Rmf _____ @ _____ °F Equiv. Cl^- _____ ppm (Resistivity)

Cl^- _____ ppm $NO_3^=$ _____ ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.
)

MAIN CHAMBER

Recovered (MAIN CHAMBER)

65.4	cft	GAS
12000	cc	OIL 510 API at 60°F
_____	cc	WATER
2450	cc	MUD
_____	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S	CO_2
(ppm)	170,000 M	35000M	15000M	5600	600	_____	300

OIL _____ °API @ _____ °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm(By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	2,200 psi	2295.7 psi ,	2281.9 psi
Final Shut-in	2200 psi	2295.7 psi ,	2281.9 psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	33 min		
Shut-in Time	_____ min		

SEGREGATOR

Recovered (SEGREGATOR)

Number _____

_____	cft	GAS
_____	cc	OIL
_____	cc	WATER
2200	cc	MUD
_____	cc	SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	___ M	___ M	___ M	___	___	___

OIL ___ °API @ ___ °F, Pour Point ___ °F, GOR ___.

WATER Cl^- ___ ppm $NO_3^=$ ___ ppm (By Titration)

Rrf ___ @ ___ °F, Equiv. Cl^- ___ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	_____ psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

Temperatures (Max. Recording) 158 °F , _____ °F (Max. Depth Tool Reached _____ ft.)

(Time since circulation _____ hours)

Remarks: _____

FIT RECORD

WELL: TURRUM-2

GEOLOGIST

FIT 4 @ 5271 FEET (IES Log Depth)

DATE: 22/6/74

MUD DATA: Rmf ____ @ ____ °F Equiv. Cl^- ____ ppm (Resistivity)) SAMPLE TAKEN AT END OF LAST CIRCULATION.

Cl^- ____ ppm $NO_3^=$ ____ ppm (Titration))

MAIN CHAMBER

Recovered (MAIN CHAMBER)

3.15	cft	GAS
	cc	OIL
19,050	cc	WATER
2,450	cc	MUD
	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S	CO_2
(ppm)	115000 M	97500 M	70000 M	23600	2800		200

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____

WATER Cl^- ____ ppm $NO_3^=$ 50 ppm (By Titration)

Rrf .98 @ 68 °F, Equiv. Cl 2400 ppm (By Resistivity)
.78' .71

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge	Gauge
Sampling	2270.0 psi	2307.9 psi	2338.6 psi
Final Shut-in	2,280 psi	2339.2 psi	2369.3 psi
Hydrostatic	2950 psi	2985.4 psi	2989.6 psi
Sampling Time	24 min		
Shut-in Time	4 min		

SEGREGATOR

Recovered (SEGREGATOR)

Number ____

	cft	GAS
	cc	OIL
	cc	WATER
	cc	MUD
	cc	SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	M	M	M			

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv. Cl^- ____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge	Gauge
Sampling	psi	psi	psi
Final Shut-in	psi	psi	psi
Hydrostatic	psi	psi	psi
Sampling Time	min		
Shut-in Time	min		

Temperatures (Max. Recording) ____ °F, ____ °F (Max. Depth Tool Reached ____ ft.)

(Time since circulation ____ hours)

Remarks: ____

FIT 5 @ 5089 FEET (IES Log Depth) GEOLOGIST _____

DATE: 22/6/74

MUD DATA: Rmf _____ @ _____ °F Equiv. Cl^- 72 ppm (Resistivity)) SAMPLE TAKEN AT

Cl^- _____ ppm $NO_3^=$ _____ ppm (Titration)) END OF LAST CIRCULATION.

MAIN CHAMBER

Recovered (MAIN CHAMBER)

157.3	cft	GAS
_____	cc	OIL
_____	cc	WATER
2750	cc	MUD & CONDENSATE TRACE
_____	cc	SAND

Properties: (MAIN CHAMBER)

GAS

	C_1	C_2	C_3	C_4	C_5	H_2S	CO_2
(ppm)	170000 M	26000 M	18000 M	8900	2100	_____	200

OIL _____ °API @ _____ °F, Pour Point _____ °F, GOR _____.

WATER Cl^- 3000 ppm $NO_3^=$?? ppm (By Titration)

Rrf .79 @ 68 °F, Equiv. Cl^- 3000 ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	2270.0 psi	2301.8 psi ,	2292.3 psi
Final Shut-in	2280 psi	2301.8 psi ,	2292.3 psi
Hydrostatic	2950 psi	2879.0 psi ,	2870.7 psi
Sampling Time	24 min		
Shut-in Time	4 min		

SEGREGATOR

Recovered (SEGREGATOR)

Number _____

_____	cft	GAS
?	cc	OIL
_____	cc	WATER
_____	cc	MUD
_____	cc	SAND

Properties: ~~(SEGREGATOR)~~

Mud & Condensate from shaw shell

GAS

	C_1	C_2	C_3	C_4 C_{4N}	C_5	H_2S
(ppm)	9 M	6 M	70 M	54 M	97M 32M	_____

OIL _____ °API @ _____ °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	_____ psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

Temperatures (Max. Recording) 160 °F , _____ °F (Max. Depth Tool Reached _____ ft.)

(Time since circulation _____ hours)

Remarks: _____

FIT 6 @ 8512 FEET (IES Log Depth)

GEOLOGIST S. GILES

DATE:

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.

MAIN CHAMBER

Recovered (MAIN CHAMBER)

1	cft	GAS
_____	cc	OIL
9800	cc	WATER
_____	cc	MUD
_____	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	18 M	15 M	2.5 M	2200 M	600 M	-

OIL _____ °API @ _____ °F, Pour Point _____ °F, GOR _____.

WATER Cl^- 7500ppm $NO_3^=$ 58 ppm (By Titration)

Rrf 0.48 @ 62 °F, Equiv NaCl 15000ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge	Gauge
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	3734 psi ,	3731 psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

SEGREGATOR

Recovered (SEGREGATOR)

Number 17

_____	cft	GAS
_____	cc	OIL
_____	cc	WATER
_____	cc	MUD
_____	cc	SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	M	M	M			

OIL _____ °API @ _____ °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge	Gauge
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	_____ psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

Temperatures (Max. Recording) _____ °F , _____ °F (Max. Depth Tool Reached _____ ft.)

(Time since circulation _____ hours)

Remarks: PRESUMED OIL - ALL RECOVERY FROM FORMATION BY BUILDUP CURVE

WELL: TURRUM-2

FIT 7 @ 8480 FEET (IES Log Depth) GEOLOGIST S. GILES

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- ____ ppm (Resistivity) DATE:

Cl^- ____ ppm $NO_3^=$ 168 ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.

MAIN CHAMBER

Recovered (MAIN CHAMBER)

87.5 cft GAS
400 cc XXX LIQUID.
____ cc WATER
____ cc MUD
____ cc SAND

Properties: (MAIN CHAMBER)

GAS (ppm)

C_1	C_2	C_3	C_4	C_5	H_2S
165 M	35 M	15 M	6.1 M	0.9 M	-

REFRACT. OIL 48 °API @ 62 °F, Pour Point ____ °F, GOR ____.

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv. Cl^- ____ ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

Schlumberger	Agnew (Dual Ameradas) Gauge ____	Gauge ____
Sampling ____ psi	____ psi ,	____ psi
Final Shut-in ____ psi	3703 psi ,	3711 psi
Hydrostatic ____ psi	____ psi ,	____ psi
Sampling Time ____ min		
Shut-in Time ____ min		

SEGREGATOR

Recovered (SEGREGATOR) Number 24

____ cft GAS
____ cc OIL
____ cc WATER
____ cc MUD
____ cc SAND

Properties: (SEGREGATOR)

GAS (ppm)

C_1	C_2	C_3	C_4	C_5	H_2S
____ M	____ M	____ M	____	____	____

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____.

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv. Cl^- ____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

Schlumberger	Agnew (Dual Ameradas) Gauge ____	Gauge ____
Sampling ____ psi	____ psi ,	____ psi
Final Shut-in ____ psi	____ psi ,	____ psi
Hydrostatic ____ psi	____ psi ,	____ psi
Sampling Time ____ min		
Shut-in Time ____ min		

Temperatures (Max. Recording) ____ °F , ____ °F (Max. Depth Tool Reached ____ ft.)

(Time since circulation ____ hours)

Remarks:

FIT 8 @ 7624 FEET (IES Log Depth)

GEOLOGIST S. GILES

DATE:

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.

MAIN CHAMBER

Recovered (MAIN CHAMBER)

70.3 cft GAS

200 cc OIL

_____ cc WATER

_____ cc MUD

_____ cc SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S	CO_2
(ppm)	165 M	33 M	15.5 M	7.5 M	1.5 M	_____	325 ppm

OIL 56 °API @ 53 °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	3387 psi ,	3377 psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

SEGREGATOR

Recovered (SEGREGATOR) Number 1

_____ cft GAS

_____ cc OIL

_____ cc WATER

_____ cc MUD

_____ cc SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	___ M	___ M	___ M	___	___	___

OIL ___ °API @ ___ °F, Pour Point ___ °F, GOR ___.

WATER Cl^- ___ ppm $NO_3^=$ ___ ppm (By Titration)

Rrf ___ @ ___ °F, Equiv. Cl^- ___ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	_____ psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

Temperatures (Max. Recording) _____ °F , _____ °F (Max. Depth Tool Reached _____ ft.)

(Time since circulation _____ hours)

Remarks: _____

FIT RECORD

WELL: TURRUM-2

GEOLOGIST S. GILES

DATE:

FIT 9 @ 7750 FEET (TES Log Depth)

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.

MAIN CHAMBER

Recovered (MAIN CHAMBER)

2.2	cft	GAS
	cc	OIL
1000	cc	WATER
	cc	MUD
	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	170 M	35 M	18 M	9.5M	2.5M	

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____.

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv. Cl^- ____ ppm(By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas)	
		Gauge ____	Gauge ____
Sampling	____ psi	____ psi ,	____ psi
Final Shut-in	____ psi	3460 psi ,	3445 psi
Hydrostatic	____ psi	____ psi ,	____ psi
Sampling Time	____ min		
Shut-in Time	____ min		

SEGREGATOR

Recovered (SEGREGATOR)

Number 2

EMPTY

____	cft GAS
____	cc OIL
____	cc WATER
____	cc MUD
____	cc SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	____ M	____ M	____ M	____	____	____

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____.

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv.Cl^- ____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas)	
		Gauge ____	Gauge ____
Sampling	____ psi	____ psi ,	____ psi
Final Shut-in	____ psi	____ psi ,	____ psi
Hydrostatic	____ psi	____ psi ,	____ psi
Sampling Time	____ min		
Shut-in Time	____ min		

Temperatures (Max. Recording) ____ °F , ____ °F (Max. Depth Tool Reached ____ ft.)

(Time since circulation ____ hours)

Remarks: TIGHT TEST

FIT 10 @ 6981 FEET (IES Log Depth) GEOLOGIST S. GILES

DATE:

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.
)

MAIN CHAMBER

Recovered (MAIN CHAMBER)

62.8 cft GAS
100 cc OIL
_____ cc WATER
100 cc MUD
_____ cc SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	170 M	31 M	14 M	6.5 M	0.9 M	_____

STRAW YELLOW

OIL 57 °API @ 55 °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	3063 psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

SEGREGATOR

Recovered (SEGREGATOR)

Number _____

_____ cft GAS
_____ cc OIL
_____ cc WATER
_____ cc MUD
_____ cc SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	___ M	___ M	___ M	___	___	___

OIL ___ °API @ ___ °F, Pour Point ___ °F, GOR ___.

WATER Cl^- ___ ppm $NO_3^=$ ___ ppm (By Titration)

Rrf ___ @ ___ °F, Equiv. Cl^- ___ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	_____ psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

Temperatures (Max. Recording) _____ °F , _____ °F (Max. Depth Tool Reached _____ ft.)

(Time since circulation _____ hours)

Remarks: _____

FIT RECORD

WELL: TURRUM-2

GEOLOGIST S. GILES

DATE:

FIT 11 @ 8503 FEET (IES Log Depth)

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration)

) SAMPLE TAKEN AT
) END OF LAST
) CIRCULATION.

MAIN CHAMBER

Recovered (MAIN CHAMBER)

65.7	cft	GAS
100	cc	OIL
	cc	WATER
100	cc	MUD
	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S	CO_2
(ppm)	170 M	45 M	16 M	7.5 M	1.2 M		1.6M

GREY OIL 55 °API @ 58 °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	3695 psi ,	3691 psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min	STILL BUILDING UP	

SEGREGATOR

Recovered (SEGREGATOR)

Number _____

NO SEGREGATOR

_____	cft	GAS
_____	cc	OIL
_____	cc	WATER
_____	cc	MUD
_____	cc	SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	M	M	M			

OIL _____ °API @ _____ °F, Pour Point _____ °F, GOR _____.

WATER Cl^- _____ ppm $NO_3^=$ _____ ppm (By Titration)

Rrf _____ @ _____ °F, Equiv. Cl^- _____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge _____	Gauge _____
Sampling	_____ psi	_____ psi ,	_____ psi
Final Shut-in	_____ psi	_____ psi ,	_____ psi
Hydrostatic	_____ psi	_____ psi ,	_____ psi
Sampling Time	_____ min		
Shut-in Time	_____ min		

Temperatures (Max. Recording) _____ °F , _____ °F (Max. Depth Tool Reached _____ ft.)

(Time since circulation _____ hours)

Remarks: TIGHT

FIT RECORD

WELL: TURRUM-2

GEOLOGIST S. GILES

FIT 12 @ 8622 FEET (IES Log Depth) DATE:

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)) SAMPLE TAKEN AT END OF LAST CIRCULATION.

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration))

MAIN CHAMBER

Recovered (MAIN CHAMBER)

39.8	cft	GAS
200	cc	OIL
3000	cc	WATER
_____	cc	MUD
_____	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S	CO_2
(ppm)	168 M	40M	20.5M	18 M	1.9 M	-	0.7M

OIL 57 °API @ 55 °F, Pour Point ____ °F, GOR ____.

WATER Cl^- ____ ppm $NO_3^=$ 150 ppm (By Titration)

Rrf 0.48 @ 62 °F, Equiv NaCl 15000 ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

Schlumberger

Sampling _____ psi

Final Shut-in _____ psi

Hydrostatic _____ psi

Sampling Time _____ min

Shut-in Time _____ min

Agnew (Dual Ameradas)

Gauge	Gauge
_____ psi	_____ psi
_____ psi	_____ psi
_____ psi	_____ psi

TOOL PLUGGED

SEGREGATOR

Recovered (SEGREGATOR) Number 2

_____	cft	GAS
_____	cc	OIL
_____	cc	WATER
_____	cc	MUD
_____	cc	SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	____ M	____ M	____ M	____	____	____

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____.

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv. Cl^- ____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

Schlumberger

Sampling _____ psi

Final Shut-in _____ psi

Hydrostatic _____ psi

Sampling Time _____ min

Shut-in Time _____ min

Agnew (Dual Ameradas)

Gauge	Gauge
_____ psi	_____ psi
_____ psi	_____ psi
_____ psi	_____ psi

Temperatures (Max. Recording) _____ °F, _____ °F (Max. Depth Tool Reached _____ ft.) (Time since circulation _____ hours)

Remarks: SCHLUMBERGER PRESSURES ONLY

FIT RECORD

WELL: TURNUM-2

GEOLOGIST S. GILES

FIT 13 @ 8581 FEET (IES Log Depth) DATE:

MUD DATA: Rmf 0.43 @ 62 °F Equiv. Cl^- _____ ppm (Resistivity)) SAMPLE TAKEN AT END OF LAST CIRCULATION.

Cl^- _____ ppm $NO_3^=$ 168 ppm (Titration))

MAIN CHAMBER

Recovered (MAIN CHAMBER)

1	cft	GAS
	cc	OIL
9500	cc	WATER
	cc	MUD
	cc	SAND

Properties: (MAIN CHAMBER)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	85 M	21 M	20 M	11 M	1.3 M	

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____

WATER Cl^- ____ ppm $NO_3^=$ 44 ppm (By Titration)

Rrf 0.31 @ 59 °F, Equiv. Cl^- ____ ppm (By Resistivity)

Pressures: (MAIN CHAMBER)

	Schlumberger	Agnew (Dual Ameradas) Gauge	Gauge
Sampling	____ psi	____ psi ,	____ psi
Final Shut-in	____ psi	3778 psi ,	____ psi
Hydrostatic	____ psi	____ psi ,	____ psi
Sampling Time	____ min		
Shut-in Time	____ min		

SEGREGATOR

Recovered (SEGREGATOR) Number ____

	cft	GAS
	cc	OIL
	cc	WATER
	cc	MUD
	cc	SAND

Properties: (SEGREGATOR)

GAS	C_1	C_2	C_3	C_4	C_5	H_2S
(ppm)	____ M	____ M	____ M	____	____	____

OIL ____ °API @ ____ °F, Pour Point ____ °F, GOR ____

WATER Cl^- ____ ppm $NO_3^=$ ____ ppm (By Titration)

Rrf ____ @ ____ °F, Equiv. Cl^- ____ ppm (By Resistivity)

Pressures: (SEGREGATOR)

	Schlumberger	Agnew (Dual Ameradas) Gauge	Gauge
Sampling	____ psi	____ psi ,	____ psi
Final Shut-in	____ psi	____ psi ,	____ psi
Hydrostatic	____ psi	____ psi ,	____ psi
Sampling Time	____ min		
Shut-in Time	____ min		

Temperatures (Max. Recording) ____ °F , ____ °F (Max. Depth Tool Reached ____ ft.)

(Time since circulation ____ hours)

Remarks: ____

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 6

PALYNOLOGICAL & PALAEONTOLOGICAL REPORTS

PALYNOLOGICAL DETERMINATIONS FOR TURRUM-2, GIPPSLAND BASIN, AUSTRALIA

by

Lewis E. Stover

SUMMARY

Based on the spore-pollen and dinoflagellates recovered from 36 sidewall cores and one conventional core, the following palynological zones are recognized in Turrum-2.

5030'-5073'	*P. tuberculatus*	Post-Latrobe
5078'-5084'	Lower *N. asperus* "A"	Middle Eocene
5140'-5344'	Lower *M. diversus*	Early Eocene
5637'-6156'	Upper *L. balmei*	Paleocene
6282'-8089'	Lower *L. balmei*	Paleocene
8302'-8745'	*T. longus*	Paleocene

Spore-pollen occur throughout the sampled interval and dinoflagellates are present in the post-Latrobe, in the Middle Eocene, and in the Paleocene down to a depth of 7520 feet. Significant palynological occurrences in Turrum-2 are summarized below.

Turrum-2 well
Significant Palynological Data

Depth		Event
5040'	-	highest occurrence of *Cyathaeidites annulatus.*
5073'	-	lowest occurrence of *Cyathaeidites annulatus.*
5078'	-	highest occurrences of *Intratriporopollenites notabilis* and *Areosphaeridium dictyoplokus.*
5084'	-	presence of *Proteacidites asperopolus* and *P. pachypolus;* lowest occurrence of *Areosphaeridium dictyoplokus.*
5140'	-	highest occurrence of *Proteacidites grandis;* lowest occurrence of *Intratriporopollenites notabilis.*
5344'	-	lowest occurrence of *Proteacidites grandis* and *P. lapis.*

5637' - highest occurrences of *Gambierina nudata*, *Lygistepollenites balmei*, *L. ellipticus*, *Nothofagidites endurus* and *Wetzeliella homomorpha* (short spines).

5687' - highest occurrence of *Australopollis obscurus* and *Polycolpites langstonii*.

6156' - lowest sample within Upper *L. balmei* zone.

7052' - highest occurrence of *Proteacidites angulatus*.

7211' - lowest occurrence of *Wetzeliella homomorph* (short spines) and highest occurrence of *Adnatosphaeridium retiintextum*.

7520' - presence of *Deflandrea bakerii* and *Eisenackia crassitabulata;* lowest occurrence of *Adnatosphaeridium retiintextum*. Deepest dinoflagellate assemblage in Turrum-2.

8302' - highest occurrences of *Nothofagidites senectus*, *Proteacidites amolosexinus*, *P. reticuloconcavus*, and *Tricolpites confessus;* lowest occurrences of *Australopollis obscurus*, *Herkosporites elliottii*, and *Lygistepollenites balmei*.

8745' - highest occurrences of *Tricolpites waiparaensis* and *Tricolporites lillieri*.

ANALYSES

Samples from the *Proteacidites tuberculatus* zone. (SWC 12-9, 5030 to 5078 feet)

Residue from SWC 12 at 5030 feet has abundant dinoflagellates and very rare spore-pollen. Specimens of *Operculodinium centrocarpum* and *Spiniferites ramosus* dominate the assemblage and several undescribed forms of dinospheres exhibiting various types of ornamentation are also common. No age diagnostic palynomorphs were identified, and the assemblage is assigned to the *Proteacidites tuberculatus* zone because of its general character and the absence of species indicative of an older zone. Rare specimens of *Hystrichosphaeropsis borussica* and *Nematosphaeropsis sp.* are present.

The sample from SWC 11 at 5040 feet also contains abundant dinoflagellates and sparse spore-pollen. The palynomorphs are more diverse than the assemblage from 5030 feet although the preservation is about the same in both samples. Forms present at 5040 feet include:

Spore-Pollen

Cyathaeidites annulatus
Cyathidites spp.
Haloragacidites harrisii
Ischyosporites irregularis
Myrtaceidites eucalyptoides

Myrtaceidites parvus
Nothofagidites deminutus
Nothofagidites emarcidus
Nothofagidites falcatus
Proteacidites pachypolus (recycled)
Simplicepollis meridianus

Microplankton

Leptodinium sp.
Lingulodinium machaerophorum
Nematosphaeropsis (type 2)
Operculodinium centrocarpum
Pterodinium sp.

Spiniferites ramosus
Systematophora placacantha
Tuberculodinium rossignolae
numerous dinospheres

Of note is the presence of reworked forms as indicated by the Eocene species *P. pachypolus* and of the dinoflagellate species *T. rossignolae*. *Tuberculodinium rossignolae* has not been recorded previously from Australia and the genus, up to now, has been reported only from Early Miocene or younger sections. The occurrence of *T. rossignolae* in the Oligocene *P. tuberculatus* assemblage is anomalous. Assignment to the *P. tuberculatus* zone is based principally on the presence of *C. annulatus*.

Dinoflagellates dominate the assemblage from SWC 10 at 5060 feet and spore-pollen are rare to sparse. Among the dinoflagellates, the forms marked with an asterisk were not observed in the overlying assemblages. Species from 5060 feet include:

Spore-Pollen

Cyathaeidites annulatus
Dilwynites granulatus
Foveotriletes palaequetrus
Haloragacidites harrisii
Lygistepollenites florinii
Malvacipollis diversus
Nothofagidites emarcidus
Periporopollenites demarcatus
Simplicepollis meridianus

Microplankton

**Achomosphaera alcicornu*
**Adnatosphaeridium sp.*
**Cyclopsiella vieta*
Leptodinium sp.

Nematosphaeropsis (type 2)
Operculodinium centrocarpum
**Polysphaeridium fibrosum*
Pterodinium sp.

Spiniferites ranosus
Systematophora placacantha
numerous dinospheres

Assignment to the *Proteacidites tuberculatus* zone is based on the presence of *C. annulatus, F. palaequetrus* and the introduction of *C. vieta* and *P. fibrosum.*

The deepest sample from the *P. tuberculatus* zone is SWC 9 at 5073. The assemblage is dominated overwhelmingly by dinoflagellates represented mainly by several species of *Spiniferites* and dinospheres. Assignment to the *P. tuberculatus* zone is based on the continued occurrence of *C. annulatus.* Palynomorphs present at 5073 feet include:

Spore-Pollen

Cyatheacidites annulatus
Dacrydiumites australiense
Kuylisporites waterbolkii
Nothofagidites asperus
Nothofagidites deminutus
Nothofagidites emarcidus
Nothofagidites falcatus

Microplankton

Cyclopsiella vieta
Leptodinium sp.
Lingulodinium machaerophorum
Nematosphaeropsis (type 1)
Nematosphaeropsis (type 2)
Operculodinium centrocarpum
Spiniferites spp.
numerous dinospheres

Samples from the Lower *Nothofagidites asperus* zone. (SWC 8 and 7 at 5078 and 5084 feet, respectively)

In contrast to the assemblages from 5030 to 5073 feet which are dominated by microplankton, the assemblage from 5078 feet consists mostly of spore-pollen and dinoflagellates as well as acritarchs. The microplankton, however, are rather sparse and not well preserved. Very few proteaceous pollen are present; specimens of *nothofagidites* and *H. harrisii* are frequent and neither pollen type dominates the assemblage.

The occurrences of *Intratiporopollenites notabilis* and *Schizocolpus marlinensis* among the spore-pollen and of *Areosphaeridium dictyoplokus,*

Corrudinium corrudatum, and *"Horologinella biloba"* among the microplankton are the basis for assigning the assemblage to the "A" subzone of the Lower *N. asperus* zone. Forms identified from 5078 feet include:

Spore-Pollen

Baculatusporites disconformis
Cupaneidites orthoteichus
Dilwynites granulatus
Ephedripites notensis
Haloragacidites harrisii
Ischyosporites gremius
Intratriporopollenites notabilis
Lygistepollenites florinii
Malvacipollis diversus
Malvacipollis subtilis
Nothofagidites deminutus
Nothofagidites emarcidus
Nothofagidites falcatus
Nothofagidites flemingii
Nothofagidites goniatus
Nothofagidites heterus
Phyllocladidites mawsonii
Polycolpites esobalteus
Proteacidites annularis
?*Proteacidites grandis* (poor specimen)
Proteacidites latrobensis
Proteacidites obscurus
Proteacidites parvus
Rugulatisporites mallatus
Schizocolpus marlinensis
Simplicepollis meridianus
Tricolpites paenestriatus

Microplankton

Aerosphaeridium dictyoplokus
Corrudinium corrugatum
Deflandre sp. (probably *D. phosphoritica*)
"Horologinella biloba"
Spiniferites sp.
Wetzeliella homomorpha

The assemblage from 5084 feet has a fair association of moderately diverse, well preserved spore-pollen; microplankton are sparse. Among pollen, microplankton are sparse. Among the spore-pollen, specimens of *Nothofagidites* are common (but not dominant) and those of *H. harrisii* are frequent. *Proteacidites grandis* is the most common proteaceous pollen and examples of *P. asperopolus* and *P. pachypolus* are very rare. *Areosphaeridium dictyoplokus* is the most commonly occurring dinoflagellate; other forms are rare or very rare.

At 5084 feet recycled spore-pollen, most likely from the *L. balmei* zone, are *Basopollis otwayensis*, *Lygistepollenites balmei* and *Tricolpites gillii*.

Other forms identified from SWC 7 include:

Spore-Pollen

Banksieacidites arcuatus
Clavifera triplex
Cyathidites splendens
Dilwynites granulatus
Ephedripes notensis
Haloragacidites harrisii
Lygistepollenites florinii
Malvacipollis diversus
Malvacipollis perimagnus
Nothofagidites asperus
Nothofagidites deminutus
Nothofagidites emarcidus
Nothofagidites flemingii
Nothofagidites goniatus
Periporopollenites demarcatus
Phyllocladidites mawsonii
Polycolpites esobalteus
Proteacidites adenanthoides
Proteacidites annularis
Proteacidites asperopolus
Proteacidites grandis
Proteacidites obscurus
Proteacidites leightonii
Proteacidites pachypolus
Proteacidites parvus
Simplicepollis meridianus
Tetracolpites sp.
Verrucosisporites kopukuensis

Microplankton

Areosphaeridium dictyoplokus
Baltisphaeridium nanum (type 1)
Baltisphaeridium nanum (type 2)
Deflandrea phosphoritica
Histiocysta variata
"Horologinella triloba"
Hystrichokolpoma sp.
Pterodinium sp.
Tectatodinium sp.
Wetzeliella homomorpha

Samples from the Lower *Malvacipollis diversus* zone (SWC 6-2, 5140 to 5344 feet).

The assemblage from 5140 feet is composed exclusively of spore-pollen, with long ranging species being considerably more common than those listed

below. No typical Upper *M. diversus* species were identified among those at 5140 feet which include:

Spore-Pollen

Anacolosidites sp. cf. A. acutullus
Baculatisporites disconformis
Banksieaeidites arcuatus
Basopollis otwayensis
Clavifera triplex
Dilwynites granulatus
Haloragacidites harrisii
Integricorpus antipodus
Intratriporopollenites notabilis
Malvacipollis diversus
?Matonisporites ornamentalis
Nothofagidites emarcidus
Nothofagidites flemingii
Periporopollenites polyoratus
Phyllocladidites mawsonii
Proteacidites annularis
Proteacidites grandis
Proteacidites lapis
Proteacidites parvus
Proteacidites pseudomoides
Proteacidites reticuloscabratus
Rugulatisporites mallatus
Stereisporites punctatus
Tricolpites paenestriatus
Tricolporites adelaidensis
Verrucosisporites kopukuensis

No microplankton

SWC 5 at 5190 feet is very poorly fossiliferous and the residue is composed of mostly carbonaceous debris, woody fragments, some cuticular material and spore-pollen. The latter are rare, about 1 or 2 specimens for each of the types listed below. Assignment to the Lower *M. diversus* zone is based more on the stratigraphic position of the sample (in between two rather good Lower *M. diversus* assemblages) rather than its palynological content. Palynomorphs from 5190 feet include:

Spore-Pollen

Clavifera triplex
Dilwynites granulatus
Ephedripites notensis
Haloragacidites harrisii
Malvacipollis diversus
Nothofagidites brachyspinulosus
Nothofagidites flemingii

Periporopollenites polyoratus
Phyllocladidites mawsonii
Proteacidites grandis
Stereisporites regium (anomalous occurrence)

No microplankton

The residue from SWC 4 at 5240 feet contains abundant, moderately diverse and well preserved spore-pollen of which the most commonly occurring species are long ranging forms. Present are numerous small, relatively simple proteaceous pollen and specimens of *Nothofagidites* and *H. harrisii* are rare.

Species identified from 5240 feet include:

Spore-Pollen

Baculatisporites disconformis
Basopollis otwayensis
Clavifera triplex
Cyathidites splendens
Dilwynites granulatus
Ericipites scabratus
Haloragacidites harrisii
Ilexpollenites anguloclavatus
Latrobosporites crassus
Lygistepollenites florinii
Malvacipollis diversus
Nothofagidites emarcidus
Periporopollenites polyoratus
Phyllocladidites mawsonii
Proteacidites annularis
Proteacidites grandis
Proteacidites lapis
Rugulatisporites mallatus
Simplicepollis meridianus
Stereisporites punctatus
Tricolpites gillii
Tricolpites phillipsii

Microplankton - 2 broken specimens

Sample from SWC 2 at 5344 feet is very poorly fossiliferous. It is assigned to Lower *M. diversus* zone because of the absence of *L. balmei* forms rather than the presence of definitive Lower *M. diversus* species. Forms present are:

Spore-Pollen

Baculatisporites comaumensis
Basopollis sp. cf. B. otwayensis
Nothofagidites emarcidus
Periporopollenites polyoratus
Proteacidites annularis
Proteacidites grandis
Proteacidites lapis
Proteacidites parvus

Samples from the Upper *Lygistepollenites balmei* zone (SWC 29-25, 5637 to 6156 feet).

The samples from the Upper *L. balmei* zone are sparsely to moderately fossiliferous. These assemblages are composed mainly of spore-pollen and either lack dinoflagellates or they are rare and generally not well preserved. Assignment to the Upper *L. balmei* zone is based on the presence of the nominate species and *Gambierina rudata, Australopollis obscurus, Polycolpites langstonii, Lygistepollenites ellipticus.* These species, in conjunction with the continued occurrence of *Basopollis mutabilis, B. otwayensis, Haloragacidites harrisii, Malvacipollis diversus* and *Nothofagidites flemingii,* indicate the appropriateness of assigning the samples between 5637 and 6156 feet to the Upper *L. balmei* zone.

Specimens of *Wetzeliella homomorpha* (short spined variety) and an unnamed peridiniacean form with an autophragm occur at 5637, 5897 and 6156 feet. The occurrences of associated spore-pollen from the Upper *L. balmei* zone are plotted on the accompanying distribution charts.

Samples from the Lower *Lygistepollenites balmei* zone (SWC 24-9, 6282 to 8089 feet and core 3 at 7653 feet).

In Turrum-2, the Lower *L. balmei* zone has a dinoflagellate bearing interval that extends from 6282 to 7520 feet. The upper part of this interval (6282 to 7052 feet) is characterized by the consistent but rare occurrence of *Wetzeliella homomorpha* and *Deflandrea* sp. (the same forms that are present in the Upper *L. balmei* zone). From 7211 to 7520 feet the relative abundance of dinoflagellates increases as does the number of species. For example, the sample at 7211 feet contains numerous specimens of *Adnatosphaeridium retiintextum;* at 7310 feet *A. retiintextum* is the dominant form and associated with it are specimens of *Cleistosphaeridium sp., Deflandrea bakerii* (frequent), *Fibrocysta sp., Spiniferites sp.* and *Epicephalopyxis indentata.* The same association, with the addition of *Eisenackia crassitabulata* and common specimens of *Spinidinium sp.,* is present at 7520 feet.

Spore-pollen assemblages from 6282 to 7520 feet are generally poor, both in the number of specimens and in the number of species. The majority of forms are long ranging and key species, for the most part, are sparse and

occur sporadically. The exception is the consistent occurrence of *L. balmei*. Also important is the presence of *Proteacidites angulatus* at 7052 feet.

Samples below 7520 feet and assigned to the Lower *L. balmei* zone lack dinoflagellates. Spore-pollen assemblages vary from poor to fair and preservation becomes increasingly less favorable with greater depth. Some samples contain relatively numerous specimens of small proteaceous pollen (7762 and 7874 feet); *Australopollis obscurus* is frequent at 7874 feet; specimens of *Nothofagidites spp.* are essentially absent (recorded only at 7666 feet); and *Proteacidites angulatus* occurs in nearly every sample.

Samples from the *Tricolpites longus* zone (SWC 7 and 1 at 8302 and 8745 feet).

Assignment of these samples to the *T. longus* zone is based on the presence of *Tricolpites confessus, Proteacidites amolosexinus, P. reticuloconcavus* and *Nothofagidites senectus* at 8302 feet plus the introduction of *Tricolpites waiparaensis* and *Tricolporites lilliei* at 8745 feet. The intervening sidewall cores yielded very poor spore-pollen assemblages.

SUMMARY OF FORAMINIFERAL DATA FROM TURRUM - 2

By. David Taylor
25-9-74

Side wall core depth	ZONE	Quality	Environment & Comments
2900	D-1	1	Shelf/slope break
3100	D-1	1	" " "
3300	D-1	2	Slope canyon with displaced & shape sorted faunas
3500	D-1	1	as above
3700	D-1	2	" " " " "
3900	D-1	2	Slope canyon with size & shape sorted faun
4100	D-1	1	" " " " "
4200	D-1	1	" " " " "
4300	D-1	1	Slope or slope canyon with displaced shallow water benthonics. ? Initial canyon fill.
4400	D-1	2	" " " " "
4492	D-2	1	" " " " "
4800	D-2	1	" " " " "
UNSAMPLED INTERVAL No recovery of S.W.C's 13 & 14			Interval 5030' to 4800' may be abreviated or F and/or E missing. There is evidence of slope instability in Turrum-1. In this section there is evidence of canyon cutting or strong down slope currents at 4800' (see above).
5030	G	0	Base of slope and/or inner rise
5040	H-1	0	" " " " "
5060	H-1	0	" " " " "
5073	H-1	0	" " " " "
5078	NO FAUNA FOUND		

N.B. Above listed ~~are~~ Were the only samples submitted. Turrum-2 is evidently structurally higher than Turrum-1 where Zones H-2 and I-1 were recognised and where a benthonic fauna of probable late Eocene age was reported.

David Taylor
25-9-74.

Form R 193 3/71

BASIN GIPPSLAND BY David TAYLOR

WELL NAME TURRUM-2 DATE 25-9-74 ELEV. _____

Foram Zonules

		Highest Data	Quality	2 Way Time	Lowest Data	Quality	2 Way Time
MIOCENE	A						
	Alternate						
	B						
	Alternate						
	C						
	Alternate						
	D_1	2900	1		4400	2	
	Alternate				4300	1	
	D_2	4492	1		4800*	1	
	Alternate						
	E						
	Alternate						
	F						
	Alternate						
	G	5030*	0		5030	0	
	Alternate						
	H_1	5040	0		5073	0	
	Alternate						
	H_2						
	Alternate						
OLIGOCENE	I_1						
	Alternate						
	I_2						
	Alternate						
	J_1						
	Alternate						
	J_2						
	Alternate						
EOC.	K						
	Alternate						
	Pre K						

No fauna was found in S.W.C9 at 5078'. From samples submitted 5073' (= H-1) is base of foraminiferal sequence which is much higher than Turrum-1 where H-2 and I were present as well as late Eocene faunas.

COMMENTS: * S.W.C's 13 & 14 were not recovered in the interval between 5030 & 4800. Over this interval the sequence could be abreviated or F and/or E missing as slope insability is evident over the equivalent biostratigraphic interval in Turrum-1. Also down slope currents are apparent during D-2 in Turrum-2.

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

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

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

Date Revised _____

By _____

ADDED BY DNRE 21/5/99

BASIN GIPPSLAND DATE

WELL NAME TURRUM-2 ELEVATION KB +32'; DF +31'

AGE	PALYNOLOGIC ZONES	HIGHEST DATA Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time	LOWEST DATA Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time
MIO.	P. tuberculatus	5030	1				5073	1			
EOCENE	U. N. asperus										
	M. N. asperus										
	L. N. asperus	5078	0				5084	0			
	P. asperopolus										
	U. M. diversus										
	M. M. diversus										
	L. M. diversus	5140	1				5344	2	5240	1	
PALEOCENE	U. L. balmei	5637	1				7211	1			
	L. L. balmei	7310	1				8492	2	8302	1	
	T. longus	8745	1				8745	1			
CRETACEOUS	T. lilliei										
	N. senectus										
	C. trip./T.pach.										
	C. distocarin.										
	T. pannosus										
EARLY CRETACEOUS											
PRE-CRETACEOUS											

COMMENTS: DINOFLAGELLATE ZONES:

Deflandrea heterophylcta Zone 5078'(1) – 5084'(1)

Wetzeliella homomorpha Zone 5637'(1) – 7211'(1)

Eisenackia crassitabulata Zone 7520'(1)

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

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

DATA RECORDED BY: L.E.S. DATE Sept. 1974.

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

WELL COMPLETION REPORT

TURRUM-2

APPENDIX 7

VELOCITY SURVEY SHEETS

AUSTRAL UNITED GEOPHYSICAL PTY. LTD. — OBSERVERS' REPORT

Prospect TURRUM #2 (INTERMEDIATE) State Vic. Weather ROUGH SEAS

Party No. 8L Instrument series No. R54 Geophones WLS - 1000

Energy Source GAS GUN Ship heading _____ Moon Pool Hydrophone Offset 85' APPROX

RECORD NO.	GEOPHONE DEPTH (KB)	SHOT DEPTH	CHARGE	GAIN SHOT LOCATION Station Dist.	TAPE NO.	TIME	REMARKS Att.
1	5300	45	20 sec	40db		1300	-15
2	"	"	"	40		1302	
3	"	"	"	30		1304	
4	5074	45	20	30		1310	-13
5	"	"	"	30		1312	
6	"	"	"	20		1314	
7	4694	45	20	20		1320	-16
8	"	"	"	20		1322	
9	"	"	"	10		1324	
10	4298	45	20	10		1330	-17
11	"	"	"	10		1332	
12	"	"	"	20		1334	
13	3704	45	20	30		1340	-20
14	"			30		1342	
15	"			30		1344	
16	2898	45	20	30		1350	-25
17	"	"	"	30		1352	
18	"	"	"	30		1354	
							GAS BOTTLES ON HAND
							FULL.
							PART FULL. 2

Date & time of departure Brisbane 0900 hrs 18-6-74

Date of survey 21-6-74

Date & time of arrival Brisbane 1800 hrs 22-6-74

Signed _____ Observer

_____ Party Chief/Mgr.

AUSTRAL UNITED GEOPHYSICAL PTY. LTD. – OBSERVERS' REPORT

Prospect TURRUM #2 (FINAL) State VIC Weather ROUGH SEAS.

Party No. 89 Instrument series No. RS4 Geophones V.L.S-1000

Energy Source GAS GUN Ship heading _____ Moon Pool Hydrophone Offset 85' approx.

RECORD NO.	GEOPHONE DEPTH (KB)	SHOT DEPTH	CHARGE	SHOT LOCATION Bear.	SHOT LOCATION Dist.	TAPE NO.	TIME	REMARKS
1	8725	45	15 sec				1535	
2	"	"	"				1536	
3	"	"	"				1538	
4	5405	45	15				1550	
5	"	"	"				1551	
6	"	"	"				1552	
7	"	"	"				1554	
8	"	"	"				1555	
9	7675	45	15				1608	
10	"	"	"				1609	no good
11	"	"	"				1610	
12	"	"	"				1611	
13	6965	45	15				1615	
14	"	"	"				1620	
15	"	"	"				1625	
16	5539	40	15				1655	
17	"	"	"				1712	
18	5074	40	15				1715	
								GAS BOTTLES ON HAND
								FULL.
								PART FULL. 2.

Date & time of departure Brisbane 1600 8-7-74

Date of survey 10-7-74

Date & time of arrival Brisbane 1600 12-7-74

Signed _____ Observer

_____ Party Chief/Mgr.

PE902298

This is an enclosure indicator page.
The enclosure PE902298 is enclosed within the container PE902297 at this location in this document.

The enclosure PE902298 has the following characteristics:

ITEM_BARCODE	= PE902298
CONTAINER_BARCODE	= PE902297
NAME	= Structure Map on the A-6 Oil Sand Horizon
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= SEISMIC
SUBTYPE	= HRZN_CNTR_MAP
DESCRIPTION	= Structure Map on the A-6 Oil Sand Horizon (enclosure from WCR) for Turrum-2
REMARKS	=
DATE_CREATED	= 31/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= Turrum-2
CONTRACTOR	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.
CLIENT_OP_CO	= ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902299

This is an enclosure indicator page.
The enclosure PE902299 is enclosed within the container PE902297 at this location in this document.

The enclosure PE902299 has the following characteristics:

ITEM_BARCODE	= PE902299
CONTAINER_BARCODE	= PE902297
NAME	= Structural Cross Section A-A' Palaeocene Section Pre Drill
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= CROSS_SECTION
DESCRIPTION	= Structural Cross Section A-A' Palaeocene Section Pre Drill (enclosure from WCR) for Turrum-2
REMARKS	=
DATE_CREATED	= 30/04/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= Turrum-2
CONTRACTOR	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.
CLIENT_OP_CO	= ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE601431

This is an enclosure indicator page.
The enclosure PE601431 is enclosed within the container PE902297 at this location in this document.

The enclosure PE601431 has the following characteristics:

ITEM_BARCODE	= PE601431
CONTAINER_BARCODE	= PE902297
NAME	= Well Completion Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= COMPLETION_LOG
DESCRIPTION	= Well Completion Log (enclosure from WCR) for Turrum-2
REMARKS	=
DATE_CREATED	= 12/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= Turrum-2
CONTRACTOR	= ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.
CLIENT_OP_CO	= ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902300

This is an enclosure indicator page.
The enclosure PE902300 is enclosed within the container PE902297 at this location in this document.

The enclosure PE902300 has the following characteristics:

ITEM_BARCODE	= PE902300
CONTAINER_BARCODE	= PE902297
NAME	= Structural Cross Section A-A' Palaeocene Section Post Drill
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= CROSS_SECTION
DESCRIPTION	= Structural Cross Section A-A' Palaeocene Section Post Drill (enclosure from WCR) for Turrum-2
REMARKS	=
DATE_CREATED	= 30/09/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= Turrum-2
CONTRACTOR	= ESSO
CLIENT_OP_CO	= ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE906484

This is an enclosure indicator page.
The enclosure PE906484 is enclosed within the container PE902297 at this location in this document.

The enclosure PE906484 has the following characteristics:

ITEM_BARCODE	= PE906484
CONTAINER_BARCODE	= PE902297
NAME	= Time-Depth Curve
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= VELOCITY _CHART
DESCRIPTION	= Time-Depth Curve (interpretive), enclosure from WCR, for Turrum-2
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE906485

This is an enclosure indicator page.
The enclosure PE906485 is enclosed within the container PE902297 at this location in this document.

The enclosure PE906485 has the following characteristics:

ITEM_BARCODE	= PE906485
CONTAINER_BARCODE	= PE902297
NAME	= FIT Data
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= FIT
DESCRIPTION	= FIT Data (enclosure from WCR) for Turrum-2
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= SCHLUMBERGER
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603834

This is an enclosure indicator page.
The enclosure PE603834 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603834 has the following characteristics:

ITEM_BARCODE	= PE603834
CONTAINER_BARCODE	= PE902297
NAME	= CPI Quantitative Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= CPI Quantitative Log for Turrum-2
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	= 16/11/84
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	=
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603835

This is an enclosure indicator page.
The enclosure PE603835 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603835 has the following characteristics:

ITEM_BARCODE	= PE603835
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 1 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 1 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603836

This is an enclosure indicator page.
The enclosure PE603836 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603836 has the following characteristics:

ITEM_BARCODE	= PE603836
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 2 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 2 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603837

This is an enclosure indicator page.
The enclosure PE603837 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603837 has the following characteristics:

ITEM_BARCODE	= PE603837
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 3 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 3 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603838

This is an enclosure indicator page.
The enclosure PE603838 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603838 has the following characteristics:

ITEM_BARCODE	= PE603838
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 4 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 4 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603839

This is an enclosure indicator page.
The enclosure PE603839 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603839 has the following characteristics:

ITEM_BARCODE	= PE603839
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 5 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 5 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603840

This is an enclosure indicator page.
The enclosure PE603840 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603840 has the following characteristics:

ITEM_BARCODE	= PE603840
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 6 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 6 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603841

This is an enclosure indicator page.
The enclosure PE603841 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603841 has the following characteristics:

ITEM_BARCODE	= PE603841
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 7 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 7 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603842

This is an enclosure indicator page.
The enclosure PE603842 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603842 has the following characteristics:

ITEM_BARCODE	= PE603842
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 8 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 8 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603843

This is an enclosure indicator page.
The enclosure PE603843 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603843 has the following characteristics:

ITEM_BARCODE	= PE603843
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 9 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 9 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603844

This is an enclosure indicator page.
The enclosure PE603844 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603844 has the following characteristics:

ITEM_BARCODE	= PE603844
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 10 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 10 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603845

This is an enclosure indicator page.
The enclosure PE603845 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603845 has the following characteristics:

ITEM_BARCODE	= PE603845
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 11 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 11 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603846

This is an enclosure indicator page.
The enclosure PE603846 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603846 has the following characteristics:

ITEM_BARCODE	= PE603846
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 12 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 12 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603847

This is an enclosure indicator page.
The enclosure PE603847 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603847 has the following characteristics:

ITEM_BARCODE	= PE603847
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 13 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 13 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603848

This is an enclosure indicator page.
The enclosure PE603848 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603848 has the following characteristics:

ITEM_BARCODE	= PE603848
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 14 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 14 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603849

This is an enclosure indicator page.
The enclosure PE603849 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603849 has the following characteristics:

ITEM_BARCODE	= PE603849
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 15 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 15 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603850

This is an enclosure indicator page.
The enclosure PE603850 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603850 has the following characteristics:

ITEM_BARCODE	= PE603850
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 16 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 16 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603851

This is an enclosure indicator page.
The enclosure PE603851 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603851 has the following characteristics:

ITEM_BARCODE	= PE603851
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 17 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 17 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603852

This is an enclosure indicator page.
The enclosure PE603852 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603852 has the following characteristics:

ITEM_BARCODE	= PE603852
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 18 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 18 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603853

This is an enclosure indicator page.
The enclosure PE603853 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603853 has the following characteristics:

ITEM_BARCODE	= PE603853
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 19 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 19 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603854

This is an enclosure indicator page.
The enclosure PE603854 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603854 has the following characteristics:

ITEM_BARCODE	= PE603854
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 20 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 20 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603855

This is an enclosure indicator page.
The enclosure PE603855 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603855 has the following characteristics:

ITEM_BARCODE	= PE603855
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 21 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 21 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603856

This is an enclosure indicator page.
The enclosure PE603856 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603856 has the following characteristics:

ITEM_BARCODE	= PE603856
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 22 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 22 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603857

This is an enclosure indicator page.
The enclosure PE603857 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603857 has the following characteristics:

ITEM_BARCODE	= PE603857
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 23 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 23 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603858

This is an enclosure indicator page.
The enclosure PE603858 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603858 has the following characteristics:

ITEM_BARCODE	= PE603858
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 24 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 24 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603859

This is an enclosure indicator page.
The enclosure PE603859 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603859 has the following characteristics:

ITEM_BARCODE	= PE603859
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 25 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 25 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603860

This is an enclosure indicator page.
The enclosure PE603860 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603860 has the following characteristics:

ITEM_BARCODE	= PE603860
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 26 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 26 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603861

This is an enclosure indicator page.
The enclosure PE603861 is enclosed within the container PE902297 at this location in this document.

The enclosure PE603861 has the following characteristics:

ITEM_BARCODE	= PE603861
CONTAINER_BARCODE	= PE902297
NAME	= Mud Log, 27 of 27
BASIN	= GIPPSLAND
PERMIT	= VIC/L3
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log, 27 of 27, Turrum-2
REMARKS	=
DATE_CREATED	= 8/07/74
DATE_RECEIVED	=
W_NO	= W682
WELL_NAME	= TURRUM-2
CONTRACTOR	= BAROID
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)