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BUREAU OF LAND MANAGEMENT



BULLSEYE-1
WELL COMPLETION REPORT.

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BULLSEYE-1
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36 pages
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WELL COMPLETION REPORT

BULLSEYE-1

ESSO AUSTRALIA LTD.

CONFIDENTIAL

D.M. Maughan
L.J. Brooks

April, 1974

WELL COMPLETION REPORT

BULLSEYE-1

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COMPLETION REPORT

I WELL DATA RECORD

Date January, 1974

LOCATION

WELL NAME BULLSEYE-1	STATE VICTORIA	PERMIT or LICENCE VIC/PI	GEOLOGICAL BASIN GIPPSLAND	FIELD New Field Wildcat
CO-ORDINATES (Surface) Lat. Long. Lat. 38° 35' 29.352"S X= 549,337 m.E Long. 147° 33' 59.466"E Y=5,728,388 m.N		MAP PROJECTION Australian National Spheroid UTM Projection A.M.G.	GEOGRAPHICAL DESCRIPTION 12 miles SW of Bream-2 12 miles SE of Dolphin-1	
<u>ELEVATIONS & DEPTHS</u>				
ELEVATIONS Ground KB 32' RT	WATER DEPTH 192'	TOTAL DEPTH M.D. 7768' XXXXX	Avg. Angle Straight Hole	
Braden Head Top Deck Platform	PLUG BACK DEPTH 295'	REASONS FOR P.B. Abandonment		
<u>DATES</u>				
MOVE IN November 22, 1973	RIG UP November 24, 1973	SPUDED November 24, 1973		
RIG DOWN COMPLETE December 5, 1973	RIG RELEASED December 5, 1973	PROD. UNIT - Start Rigging Up		
PROD. UNIT - Rig Down Complete		I.P. ESTABLISHED		
<u>MISCELLANEOUS</u>				
OPERATOR Esso Australia Ltd.	PERMITTEE or LICENCEE Hematite	ESSO INTEREST Well 100% Other Nil	OTHER INTEREST	
CONTRACTOR Global Marine A/Asia Pty.Ltd.	RIG NAME Glomar Conception	EQUIPMENT TYPE Drilling Vessel		
TOTAL RIG DAYS 13.13	DRILLING AFE NO. 233-015	COMPLETION NO.	TYPE COMPLETION	
LAHEE WELL	Before Drilling	New Field Wildcat		
CLASSIFICATION	After Drilling	Unsuccessful New Field Wildcat with No Hydrocarbon Shows.		

D.M. Maughan

Geologist

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

NOT APPLICABLE

IV CASING - LINER - TUBING RECORD							
Type	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
KB ELEVATION ABOVE CASING HEAD						215.00	215.00
20"/30" PILE JOINT						34.02	249.02
	20"	91.5#	X52 LP	JV	9 + Float Shoe	352.44	601.46
KB ELEVATION ABOVE HANGER						220.00	220.00
	10-3/4"	40.5#	J-55	BUTT	62+ Float Collar	2468.20	2688.20
	10-3/4"	40.5#	J-55	BUTT	1+ Float Shoe	39.96	2728.16

V CEMENT RECORD			
String	20"	10-3/4"	
Type of Cement	1100 sx Aust N +350 sx Aust N+2% CaCl ₂	430 sx Aust N + 1% CaCl ₂	
Number of FT ³	1711	507	
Average weight of slurry	15.6 ppg	15.6 ppg	
Cement Top	Sea Floor	1500'	
Casing Tested with	500 psi	1500 psi	
Number of Centralizers	6	10	
Number of Scratchers	-	-	
Stage Collar etc.	-	-	
Remarks	Tested formation to 13.5 ppg equivalent mud.		

R.W. Oliver
Engineer

WELL BULLSEYE-1

VII SAMPLES, CONVENTIONAL CORES, SW CORES					
INTERVAL	TYPE	RECOVERED	INTERVAL	TYPE	RECOVERED
680' to 7760'	5 sets washed and dried samples	Every 10-30 ft.			
680' to 7760'	1 set unwashed samples	Every 10-30 ft.			
680' to 7760'	Canned samples	Every 100 ft.			
2800' to 7730'	Sidewall cores - 2 guns	Shot 60 Recovered 56			

VIII WIRELINE LOGS AND SURVEYS (Incl. FIT)

Type & Scale	From	To	Type & Scale	From	To
Borehole Compensated Sonic - G.R. 5" & 2"	2748'	200' GR •			
	2748'	600' SLK •			
4 Arm High Resolution Continuous Dipmeter 10"=100'	7758'	6800' •			
Compensated Neutron - Formation Density 5" & 2"	7700'	2731' GR/CAL •			
	7700'	6650' FDC/CNL •			
ISF/Sonic 5" & 2"	7756'	2731' •			
F.I.T. #1		7680' •			
F.I.T. #2		7500' •			
F.I.T. #3		7158' •			
Velocity Survey Check shots at 10 depths	7700'	2900' •			

Geologist

WELL BULLSEYE-1

IX	FORMATION TOPS/Zones					REMARKS	
	NAME	Tops		Gross Interval (ft)	Net Pay (ft).		
		M.D.	Sub-sea		Gas		Oil
Gippsland Fm. Lakes Entrance Formation	224'	192'	6496'				
OLIGOCENE-Recent							
Latrobe Group EOCENE							
<u>N. asperus</u>	6720'	-6688'	598'				
<u>P. asperopolus</u>	7318'	-7286'	380'				
<u>M. diversus</u>	7698'	-7666'	+ 102'				

X GEOLOGIC ANALYSIS (Pre Drilling prognosis Vs actual results)

Pre-Drill

The Bullseye prospect was interpreted as a low relief, faulted anticline at the top of the Latrobe Group. Two of the seismic lines, G69B-309 and G69B-310, over the prospect were thought to exhibit direct hydrocarbon indicators. Bullseye-1 was proposed to test the interpreted structural closure containing these apparent hydrocarbon indicators.

It was noted that poor quality data precluded detailed pre-drill analysis and that channelling within the overlying Miocene section created problems in the velocity interpretation.

Post-Drill

Bullseye-1 intersected the top of Latrobe at -6688' (subsea). This was 248 feet low to prediction because the average velocity to the top of Latrobe was faster than predicted. This is attributed to the presence of the hard, microcrystalline limestone section, having anomalously high interval velocity, within the Miocene channel sequence. The upper Latrobe section proved to be a sequence of, interpreted marginal marine, shale; an inter-bedded coarse clastic sequence was intersected between -6988 feet and T.D. No hydrocarbon shows were encountered during drilling.

Subsequent reprocessing of seismic lines G69B-309 and G69B-310 showed the events thought originally to be DHI's to be less pronounced and that other interpretations are possible.

The section penetrated in Bullseye-1 was, in a gross sense, as predicted. Good reservoir rocks (20% porosity and adequate permeability) exist within the Latrobe Group whilst the overlying Lakes Entrance Formation provides a satisfactory seal.

The post-drill structural interpretation, following detailed analysis of the reprocessed seismic data, shows no closure over the prospect; therefore no hydrocarbon trap exists at the Bullseye location.

APPENDIX 1

WELL COMPLETION REPORT

BULLSEYE-I

SAMPLE DESCRIPTIONS

DEPTH	%	SAMPLE DESCRIPTION
680- 770	100	Calcarenite, gy-wh, grading to calcirudite, poorly std, abund. frags of skeletal material, e.g., gastropods, molluscs, forams bryozoa. Mostly worn, broken, obviously transported.
770- 800	100	Calcirudite aa
800- 890	100	Calcirudite aa with 50% limonite coated frags.
890- 950	100	Calcirudite aa
950-1040	100	Calcirudite aa
1040-1220	100	Calcirudite aa grading into calcarenite at 1100', becoming marly, fine grained, better consolidated micrite matrix, soft.
1220-1310	100	Calcarenite, yellow-grey, gen. loose, somecmd, with grey micrite. Pred. skeletal, gen fragmented bryozoa branches, forams and minor shell. Mod. well sorted.
1340-1610	100	Calcarenite aa
1610-1820 1610	100	Calcarenite aa
1820-2180	100	Calcarenite aa becoming less skeletal & more marly below 2000'.
2180-2270	100	Calcarenite aa
2270-2360	100	Calcarenite aa cemented in small aggregates with micrite
2360-2540	100	Calcarenite, very marly, increased amount of skeletal material.
2540-2753	100	Marl, containing abundant skeletal material, firm to sticky, light grey
2753-2960	100	Marl, firm to hard, light grey, occ. gummy
2960-3050	100	Marl aa
3050-3140	100	Marl aa
3140-3170	100	Marl aa
3170-3260	100	Marl aa
3260-3440	100	Marl aa becoming sl. argillaceous, light to dark grey, firm to soft
3440-3470	100	Marl aa
3470-3650	100	Marl aa
3650-3740	100	Marl aa slightly silty
3740-3770	100	Marl aa
3770-3830	100	Marl aa
3830-3920	100	Marl aa
3920-3980	100	Marl aa
3980-4010	100	Marl aa
4010-4040	100	Marl aa
4040-4160	100	Marl aa

DEPTH	%	SAMPLE DESCRIPTION
4160-4250	100	Marl aa, dark grey, firm to moderately soft, occ. argillaceous
4250-4340	100	Marl aa, slightly shaley
4340-4610	100	Marl aa
4610-4700	100	Marl aa
4700-4850	100	Marl aa
4850-5060	100	Marl aa, slightly shaley
5060-5210	100	Marl aa
5210-5270	60 40	Marl aa Limestone, white, hard
5270-5300	70 30	Marl aa Limestone aa
5300-5330	80 20	Marl aa Lst., aa
5330-5360	90 10	Limestone, partly microcrystalline, hard, grey to white Marl aa
5360-5390	70 30	Lst., aa Marl aa
5390-5420	70 30	Marl, grading to calc., siltstone Lst., aa
5420-5450	80 20	Lst., aa Calc. siltstone aa, grey, firm, subfissile in pt.
5450-5480	80 20	Lst., aa Calc. siltstone aa
5480-5510	100	Limestone aa, minor dolomite, pyrite
5510-5540	100	Lst., aa
5540-5570	70 30	Lst., aa Calc. siltstone aa

BULLSEYE - 1

SAMPLE DESCRIPTIONS

Edwards/Davidson

Bullseye-1

5570-5600	50%	Marl light grey soft forams
	50%	Calcarenite white - light grey moderately firm, minor lithics minor pyrite
5600-5630	50%	Calcarenite as above. Minor glauconite
	50%	Marl grey moderately soft, minor lithics, forams
5630-5660	30%	Calcarenite as above
	70%	Marl grey moderately firm, minor lithics
5660-5690	30%	Calcarenite as above
	70%	Marl as above
5690-5720	20%	Calcarenite as above
	80%	Marl silty grey to light grey, firm, lithic fragments, forams
5720-5750	70%	Marl as above
	30%	Calcarenite, white-light grey, fine grained, some crystalline calcite trace glauconite trace pyrite
5750-5780	70%	Calcarenite light grey fine grained, abundant glauconite lithic fragments, firm, some crystalline calcite
	30%	Marl as above
5780-5810	50%	Calcarenite as above
	50%	Marl as above
5810-5840	40%	Calcarenite as above
	60%	Marl as above
5840-5870	80%	Marl light grey to grey silty, moderately firm to soft, forams
	20%	Calcarenite light grey clayey moderately firm, glauconitic, crystalline calcite
5870-5900	80%	Marl as above
	20%	Calcarenite as above
5900-5930	80%	Marl as above
	20%	Calcarenite as above

SAMPLE DESCRIPTIONS

Edwards/Davidson

Bullseye-1

5930-5960	60%	Marl light grey to grey moderately firm to soft, silty in part, forams
	40%	Calcarenite light grey, very clayey, moderately firm to friable, trace pyrite some crystalline calcite
5960-5990	60%	Marl as above
	40%	Calcarenite as above
5990-6020	70%	Marl as above
	30%	Calcarenite as above
6020-6050	70%	Marl as above
	30%	Calcarenite light grey clayey moderately firm to friable, some crystalline calcite
6050-6080	80%	Marl as above
	20%	Calcarenite as above
6080-6110	20%	Calcarenite as above
6110-6140	100%	Marl as above
6140-6170	90%	Marl as above
	10%	Calcarenite as above
6170-6200	90%	Marl as above
	10%	Calcarenite as above
6200-6230	90%	Marl as above
	10%	Calcarenite as above
6230-6260	100%	Marl grey moderately firm, often silty and glauconitic, forams, rare crystalline calcite
6260-6290	100%	Marl as above
6290-6320	100%	Marl light grey to grey moderately firm often silty or sandy, glauconitic, trace coal fragments, trace pyrite, trace crystalline calcite
6320-6350	100%	Marl as above
6350-6380	100%	Shale, calcareous light grey to grey often silty or sandy, glauconitic, trace coal fragments, forams
6380-6410	100%	Shale as above
6410-6440	100%	Shale as above
6440-6470	100%	Shale as above

BULLSEYE - 1

SAMPLE DESCRIPTIONS

Edwards/Davidson

Bullseye-1

6470-6500	100%	Shale as above
6500-6530	100%	Shale as above
6530-6550	100%	Shale as above
6550-6560	100%	Shale calcareous grey to light grey-green moderately firm to moderately soft, silty or sandy in parts, glauconitic, trace coal fragments, forams
6560-6570	100%	Shale as above
6570-6580	100%	Shale as above
6580-6590	100%	Shale as above
6590-6600	100%	Shale as above
6600-6610	100%	Shale as above trace pyrite
6610-6620	100%	Shale calcareous light grey to grey parts sandy or silty and glauconitic trace pyrite, forams, moderately firm.
6620-6630	100%	Shale as above
6630-6640	100%	Shale as above
6640-6650	100%	Shale as above
6650-6660	100%	Shale as above
6660-6670	100%	Shale as above
6670-6680	100%	Shale as above
6680-6690	100%	Shale as above
6690-6700	100%	Shale calcareous light grey-green to grey often silty or sandy and glauconitic moderately firm trace pyrite, forams
6700-6710	100%	Shale as above
6710-6720	100%	Shale as above becoming more silty
6720-6730	100%	Silty shale as above
6730-6740	100%	Silty shale calcareous light grey to grey-brown often sandy, glauconitic, trace coal fragments, forams
6740-6750	100%	Shale as above
6750-6760	100%	Shale as above
6760-6770	100%	Shale as above
6770-6780	100%	Shale as above
6780-6790	100%	Shale as above

BULLSEYE - 1

SAMPLE DESCRIPTIONS

Edwards/Davidson

Bullseye-1

6790-6800	100%	Shale, calcareous, silty in part, grey moderately firm, platy trace glauconite
6800-6810	70%	Shale as above
	30%	Siltstone calcareous light grey-brown moderately friable, glauconitic, coal fragments forams
6810-6820	60%	Shale as above
	40%	Siltstone as above
6820-6830	70%	Shale as above
	30%	Siltstone as above
6830-6840		As above
		2nd Dec 1973
6840-6850		As above
6850-6860	50%	Shale as above
	50%	Siltstone calcareous light grey to grey brown moderately firm, glauconitic coal fragments forams trace pyrite (massive)
6860-6870		As above
6870-6880		As above
6880-6890	20%	Shale as above
	80%	Siltstone calcareous moderately friable clayey, grey-brown, glauconitic trace coal fragments forams
6890-6900	50%	Shale as above
	50%	Siltstone as above
6900-6910		As above
6910-6920		As above
6920-6930		As above
6930-6940		As above
6940-6950		As above
6950-6960		As above
6960-6970		As above
6970-6980		As above
6980-6990	70%	Siltstone calcareous sandy moderately friable, brown, glauconitic coal fragments forams trace massive pyrite
	30%	Claystone calcareous light grey silty moderately firm subfissile

BULLSEYE - 1

SAMPLE DESCRIPTION

Edwards/Davidson

Bullseye-1

6990-7000	40%	Siltstone as above
	60%	Shale as above
7000-7010		As above
7010-7020	40%	Siltstone as above
	50%	Shale as above
	10%	very coarse to coarse quartzose sandstone grains pyritic, rounded, clear slightly milky
7020-7030	20%	Shale as above
	50%	Siltstone as above
	30%	Sandstone as above
7030-7040	50%	Shale as above
	50%	Siltstone as above trace sandstone (less than 5%)
7040-7050		As above
7050-7060	70%	Sandstone clean loose rounded slightly milky quartzose coarse to very coarse grained moderately sorting.
	10%	Shale as above
	20%	Siltstone as above
7060-7070	50%	Sandstone as above
	20%	Shale as above
	30%	Siltstone as above
7070-7080	10%	Sandstone as above
	60%	Shale as above
	30%	Siltstone as above
7080-7090	30%	Sandstone as above
	40%	Siltstone as above (cavings)
	30%	Shale as above (cavings)
7090-7100		As above
7100-7110		As above
7110-7120		As above
7120-7130	90%	Sandstone as above 10% siltstone and shale cavings as above
7130-7140	70%	Sandstone as above 20% siltstone as above, 10% shale as above
7140-7150		As above
7150-7160		As above
7160-7180	100%	Sandstone as above trace cavings
7180-7200		As above
7200-7220		As above
7220-7240		As above
7240-7260		As above
7260-7280		As above
7280-7290		As above

BULLSEYE-1

SAMPLE DESCRIPTIONS

Edwards/Davidson

Bullseye-1

7290-7300	100%	As above
7300-7310	40%	Sandstone as above (some loose mica flakes)
	50%	Coal, black, bituminous, sub conchoidal fracture
	10%	Cavings
7310-7320	40%	Sandstone as above
	30%	Light brown to dark brown carbonaceous siltstone fairly soft, pyritic
	30%	Coal as above trace cavings as above
7320-7330	20%	Sandstone as above (a few sub angular grains)
	30%	Siltstone as above
	50%	Coal as above trace cavings
7330-7340	20%	Sandstone as above
	50%	Siltstone as above
	30%	Coal as above trace cavings
7340-7350	20%	Sandstone as above
	30%	Siltstone as above
	50%	Coal as above
7350-7360	10%	Sandstone as above
	40%	Siltstone as above
	50%	Coal as above
7360-7370	20%	Sandstone as above
	40%	Siltstone as above
	40%	Coal as above
7370-7380	50%	Sandstone as above
	30%	Siltstone as above
	20%	Coal as above
3rd Dec 1973		
7380-7390	100%	Sandstone as above trace cavings
7390-7400	100%	As above
7400-7410	100%	As above
7410-7420	100%	As above
7420-7430	90%	Sandstone as above
	10%	Coal as above trace siltstone, cavings
7430-7440	30%	Sandstone as above
	10%	Siltstone light grey to grey-brown, moderately firm, pyritic, micaceous, carbonaceous in part
	60%	Coal as above
7440-7450	40%	Sandstone as above
	20%	Siltstone as above
	30%	Coal as above

SAMPLE DESCRIPTIONS

Edwards/Davidson	
Bullseye-1	
7450-7460	10% Shale, offwhite, fissile, moderately soft micaceous 60% Sandstone as above 20% Siltstone as above 10% Coal as above 10% Shale as above
7460-7470	80% Shale as above 10% Siltstone as above 10% Coal as above
7470-7480	100% Sandstone trace coal
7480-7490	As above
7490-7500	90% Sandstone as above 10% Siltstone light grey moderately firm micaceous partly carbonaceous, pyritic
7500-7510	100% Sandstone as above trace siltstone, coal
7510-7520	70% Sandstone as above 30% Siltstone offwhite to light grey, moderately firm micaceous pyritic carbonaceous in part glauconitic in part
7520-7530	70% Sandstone as above 30% Siltstone as above no glauconite
7530-7540	30% Sandstone as above 50% Siltstone as above 20% Shale offwhite fissile moderately soft micaceous
7540-7550	70% Sandstone as above 30% Siltstone as above 10% Shale as above
7550-7560	90% Sandstone as above 10% Shale as above
7560-7570	As above
7570-7580	As above
7580-7590	60% Sandstone coarse to very coarse quartzose clear to slightly milky grained subrounded to subangular, unconsolidated moderate sorting some pyrite encrusted grains. 40% Siltstone calcareous both light grey to grey-brown moderately soft to moderately firm, micaceous, pyritic in part, glauconitic in part, some carbonaceous material fossils bryzoans
7590-7600	30% Sandstone as above 70% Siltstone as above
7600-7610	80% Sandstone as above 20% Siltstone as above
7610-7620	70% Sandstone as above 30% Siltstone as above

SAMPLE DESCRIPTIONS

Edwards/Davidson

Bullseye-1

7620-7630	60%	Sandstone as above
	40%	Siltstone as above
7630-7640	40%	Sandstone as above
	60%	Siltstone as above
7640-7650	60%	
7650-7660	20%	Siltstone as above
	80%	Sandstone as above
7660-7670	100%	Sandstone
7670-7680	100%	Sandstone
7680-7690	80%	Sandstone as above
	10%	Siltstone as above
	10%	Coal bituminous, clean, conchoid fracture
7690-7700		As above
7700-7710	90%	Sandstone as above 10% cavings
7710-7720	90%	Sandstone as above trace very fine sandstone, clean well sorted soft 10% cavings
7720-7730	20%	Sandstone as above increasing percent of very fine sandstone - not always clean
	10%	Siltstone
	70%	Marl, shale and siltstone cavings as above
7730-7740	40%	Very coarse sandstone as above trace very fine sandstone
	10%	Siltstone as above
	50%	Cavings
7740-7750	90%	Sandstone as above minor percentage medium subrounded cemented sandstone fairly friable
	10%	Cavings
		Lost pump pressure - pulled out of hole
		Total depth 7768' (driller)
7750-7760	100%	Sandstone as above trace cavings

APPENDIX 2

WELL COMPLETION REPORT

BULLSEYE-1

SIDEWALL CORE DESCRIPTIONS

SIDEWALL CORE DESCRIPTIONS

BULLSEYE-1

Peter B. Edwards

December, 1973

Core No.	Depth	Recovery	Description
1.	7730	1/2"	<u>Siltstone</u> . light grey clayey, micaceous, slightly pyritic, friable.
2.	7703	1 1/4"	<u>Claystone</u> . very light brown, featureless, soft to firm.
3.	7659	1 3/4"	<u>Sandstone</u> . quartzose, off-white, pyritic in places, medium to very coarse, angular to subangular grains, poor sorting, clear to slightly milky quartz, friable.
4.	7650	1/2"	<u>Sandstone</u> . off white, clayey, fine grained, friable.
5.	7596	1 1/4"	<u>Claystone</u> . Light grey, firm.
6.	7546	1 1/2"	<u>Claystone</u> . as above.
7.	7478	3/4"	<u>Sandstone</u> . quartzose, grey to white, pyritic bands, fine to very coarse, angular to subangular grains poor sorting, clear to slightly milky quartz, friable.
8.	7458	1 1/2"	<u>Claystone</u> . Light grey, firm.
9.	7444	N.R.	
10.	7418	1"	<u>Sandstone</u> . quartzose, very light grey, fine to very coarse, subangular grains, poor sorting, friable.
11.	7326	1"	<u>Sandstone</u> . quartzose, brown, silty, fine grained, finely divided dispersed pyrite, friable.
12.	7184	1/2"	<u>Sandstone</u> . quartzose off white. medium grained, angular to subangular, clear to slightly milky quartz, fair sorting, unconsolidated.
13.	7132	1 1/4"	<u>Sandstone</u> . quartzose, light grey, medium grained, subangular, slightly pyritic, fair sorting, friable.
14.	7075	1"	<u>Sandstone</u> . quartzose, clean white. medium grained, well sorted, subangular to subrounded, unconsolidated.
15.	7049	3/4"	<u>Siltstone</u> . quartzose, grey-brown, clayey, pyritic in patches, friable.
16.	7029	1"	<u>Sandstone</u> . quartzose, grey, fine to coarse grained, angular to subangular, poorly sorted, abundant pyrite, glauconite in places, friable.
17.	7000	1 1/2"	<u>Siltstone</u> . dark grey-brown, clayey, calcareous, micaceous, abundant sand sized glauconite grains, friable.

S.W.C

BULLSEYE-1

Core No.	Depth	Recovery	Description
18.	6950	1½"	<u>Claystone</u> . dark grey-brown, silty, calcareous, abundant sand sized glauconite grains slightly micaceous, anhydrite? bands, firm.
19.	6900	1½"	<u>Claystone</u> . grey-brown, slightly silty, very calcareous, glauconitic as above, firm to soft, subfissile.
20.	6860	1½"	<u>Claystone</u> , dark grey-brown, slightly silty, very calcareous, slightly micaceous, sand sized glauconitic grains, firm.
21.	6820	1"	<u>Claystone</u> , brown, very silty, very calcareous, micaceous, glauconitic as above, soft-firm.
22.	6750	N.R.	
23.	6700	1¾"	<u>Claystone</u> . grey-brown, very calcareous, micaceous, firm.
24.	6650	1¼"	<u>Claystone</u> . grey-brown, very calcareous, slightly micaceous, forams, firm.
25.	6600	1¾"	<u>Claystone</u> . as above.
26.	6550	1½"	<u>Claystone</u> . as above.
27.	6500	1½"	<u>Claystone</u> . as above.
28.	6450	1¼"	<u>Claystone</u> . light grey, very calcareous, slightly micaceous, abundant grains of glauconite, mostly round, sand sized, forams, firm.
29.	6400	1¾"	<u>Claystone</u> . light grey, very calcareous, slightly micaceous, common sand sized round glauconitic and calcareous grains, firm.
30.	6350	1¼"	<u>Marl</u> . light grey, slightly micaceous, forams, firm.
31.	6740	1½"	<u>Claystone</u> . grey-brown, silty, very calcareous, micaceous, abundant round glauconite grains. firm to soft.
32.	6300	1"	<u>Marl</u> . grey, common round fine calcareous grains. firm, subfissile.
33.	6250	1¾"	<u>Marl</u> . grey, firm to soft.
34.	6200	1¾"	<u>Marl</u> . firm, subfissile.
35.	6150	1¾"	<u>Marl</u> . grey, forams, firm.
36.	6100	1¾"	<u>Marl</u> . as above.
37.	6000	¼"	Lost ?

W
2/3

S.W.C.

BULLSEYE - 1

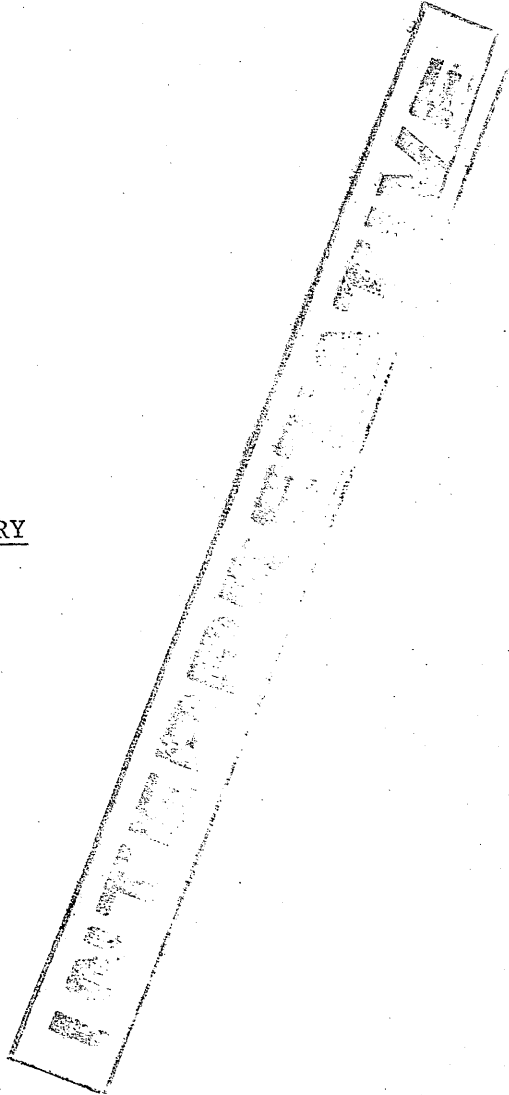
Core No.	Depth	Recovery	Description
38.	5900	1½"	<u>Marl.</u> dark grey, firm.
39.	5800	N.R.	
40.	5640	1½"	<u>Marl.</u> grey, forams, fine rounded calcareous grains firm, subfissile.
41.	5480	½"	<u>Marl.</u> as above.
42.	5366	¾"	<u>Calcarenite.</u> light grey to dark grey, clayey, fine grained, rare glauconite, firm.
43.	5300	N.R.	
44.	5200	1¾"	<u>Marl.</u> grey, firm to soft, subfissile.
45.	5050	¾"	<u>Marl.</u> as above.
46.	4900	¾"	<u>Marl.</u> light grey, firm.
47.	4775	1¼"	<u>Marl.</u> grey, firm.
48.	4600	1¼"	<u>Marl.</u> light grey, firm to soft.
49.	4450	1"	<u>Marl.</u> as above.
50.	4302	¾"	<u>Marl.</u> light grey, common fine glauconite and calcareous grains, soft.
51.	4150	½"	<u>Siltstone.</u> grey, very calcareous, clayey, very firm.
52.	4000	¾"	<u>Marl.</u> grey, forams, small calcite veins, very firm.
53.	3850	1"	<u>Marl.</u> light grey fossils, patches of crystalline calcite, rare glauconite, firm.
54.	3672	¾"	<u>Marl.</u> as above.
55.	3550	1"	<u>Marl.</u> light grey, firm.
56.	3400	1"	<u>Marl.</u> as above.
57.	3250	1¼"	<u>Marl.</u> as above.
58.	3100	1"	<u>Marl.</u> as above
59.	2950	¾"	<u>Marl.</u> light grey, forams, patches of crystalline calcite, rare glauconite grains, very firm.
60.	2800	1½"	<u>Calcarenite.</u> light grey to off-white, forams, very fine grained, rare glauconite, firm.

WELL COMPLETION REPORT

BULLSEYE-I

PALAEONTOLOGICAL DATA SUMMARY

by D.J. Taylor



WELL NAME

BULLSEYE-1

ELEVATION

KB-32', DF-31'

AGE	PALYNOLOGIC ZONES	HIGHEST DATA				LOWEST DATA					
		Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time
OLIGO-MIOC.	<u>T. bellus</u>										
	<u>P. tuberculatus</u>										
EOCENE	<u>U. N. asperus</u>	6700	2				6700	2			
	<u>L. N. asperus</u>	6820	1				7132	1			
	<u>P. asperopolus</u>	7326	2				7326	2			
	<u>U. M. diversus</u>										
	<u>L. M. diversus</u>	7730	1				7730	1			
PALEO-CENE	<u>L. balmei</u>										
	<u>T. longus</u>										
LATE CRETACEOUS	<u>T. lilliei</u>										
	<u>N. senectus</u>										
	<u>C. trip./T.pach.</u>										
	<u>C. distocarin.</u>										
	<u>T. pannosus</u>										
	<u>C. paradoxa</u>										
EARLY CRETACEOUS	<u>C. striatus</u>										
	<u>U. C. hughesii</u>										
	<u>L. C. hughesii</u>										
	<u>C. stylosus</u>										
Pre-Cretaceous											

COMMENTS: Sample from 7326 feet is no younger than *P. asperopolus* or older than Upper *M. diversus*.

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

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

DATE RECORDED BY: L. E. Stover DATE February 1974

DATA REVISED BY: _____ DATE _____

FORAMINIFERAL BIOSTRATIGRAPHY

AND

ENVIRONMENTAL ANALYSIS OF

BULLSEYE-1 WELL

GIPPSLAND BASIN

by: David Taylor

September 1, 1974.

FORAMINIFERAL BIOSTRATIGRAPHY AND ENVIRONMENTAL ANALYSIS OF

BULLSEYE -1

by David Taylor
1.9.74

Forty three side wall cores were examined from Bullseys-1. These are listed on page 3 with a summary of biostratigraphic results. Side wall cores at 7075, 7049, 7029 and 7000 were barren of foraminifera and those at 6950, 6900, 6860 and 6820 contained rare and nondescript specimens of planktonic foraminifera which did not permit biostratigraphic designation although a lowermost Oligocene and/or uppermost Eocene age is suspected for the interval between 6950 and 6820.

Biostratigraphically and environmentally the Bullseye sequence is very similar with others penetrated on the western margin of the Gippsland Basin both offshore (eg. Perch, Dolphin and the Groper wells) and onshore (eg. the Woodside area trending N.E. to Sale). The sequence is also similar to the generalised Bass Basin sequence although the late Eocene Salt Marsh environment of the Demons Bluff Formation is not developed.

The sequence commences with subdued and inhibited marine influence at 6950 which may be late Eocene or early Oligocene. The dominance of cassidulinids infers poor oxygenation and a pH between 6 & 7. An extensive series of lagoons, analagous to the Gippsland Lakes of today, could be envisaged from the Groper area to Sale butting against the Bassian Rise.

At 6740 a rich planktonic fauna was swept in by the encroaching transgression in early Oligocene times; ie. Zone J-1. The faunas at 6700 & 6650 contain many typically J-1 species including Chiloguembelina cubensis, which is very rare or usually absent in deeper situations in the Gippsland Basin. The high percentages of Buliminaea amongst the benthonic fauna suggests poor oxygenation at the sediment/water interface and that open marine conditions were not properly established, despite the high percentage of planktonics at the early stage of the transgression. Benthonic specific diversity was initially high, mainly due to the suspension of small, hydrodynamically mobile forms in the "flood". Zone 1-2 is represented at 6550 and 6500 although Guembelitra stavensis was not found. This Zone has only been recognised in this western margin area of the Basin.

This initial marine phase with development of a continental shelf continued to 6450, which is near the base of the late Oligocene Zone I-1. Cassidulinids and shallow water Cibicides spp (ie. C. brevolalis, C. perforatus etc.) dominate.

Shelfal conditions were established properly at the above 6400 (= top of I-1). Fairly low benthonic diversity and dominance of the shallow water Cibicides suggest a medium depth on a gently sloping shelf throughout the early Miocene and late Oligocene from the top of I-1 to F. There is no recognisable break in the sequence. There were some fluctuations in depth with obvious shallowing at 6200 (=H-1), 5480 and 5050 (=F), as is evidenced by the sudden appearance of miliolids and species which adhere to sea weed or by the total absence of planktonics. These conditions prevailed into the late Miocene up to 4302 (=base of D-1). Above this level the absence of Cibicides thiara and the presence of adherent forms and miliolids indicate shallower conditions although the planktonic ration and the benthonic diversity is not diminished.

The striking thing about the sediment in the interval between Zone F and Zone D-1 (5050 to 3100) is the absence of bryozoa and the Amphistegina/Operculina foraminiferal suite, which are predominant sediment particles over this interval in the other wells on the western marginal platform. Bullseye must have been situated seaward of the "sand"/mud boundary and also in a nutrient starved region. The planktonic fauna reflects the presence of only a single hydrological layer without a rich "tropical" or New Zealandic" (the Globorotalia miozea plexus) which is abundant in the eastern offshore part of the Basin. For example Zone C is identified on a single specimen of G. miotumida.

Page 3 lists sidewall cores, biostratigraphic zonation and code numbers of samples on pages 4 & 5.

Page 4 shows distribution of planktonic foraminifera. I = over 20 specimens
. = 1 - 20 specimens

Page 5 shows distribution of benthonics in groups, planktonic ratio, relative specimen numbers and benthonic diversity.

D = Dominance ie. over 40% of benthonics
X = more than 20 specimens
. = present and of environemtnal significance.

PLANKTONIC FORAMINIFERAL BIOSTRATIGRAPHY

BULLSEYE - 1

Species distribution on page 4

** Side wall core
code No. on p.4

	Depth	Zone	Epoch	Quality
1	2800	C	Late Miocene	2
2	2900	C	" "	0
3	3100	D-1	" "	1
4	3250	D-1	" "	2
5	3400	D-1	" "	2
6	3550	D-1	" "	0
7	3672	D-1	" "	2
8	3850	D-1	" "	1
9	4000	D-1	" "	2
10	4150	D-1	" "	1
11	4302	D-1	" "	0
12	4450	D-2	" "	0
13	4600	D-2	" "	1
14	4775	D-2	" "	2
15	4900	E-1	" "	0
16	5050	F	Early Miocene	1
17	5200	G	" "	0
18	5480	No planktonics found		
19	5640	G	Early Miocene	1
20	5900	H-1	" "	1
21	6000	H-1	" "	1
22	6100	H-1	" "	1
23	6150	H-1	" "	1
24	6200	H-1	" "	0
25	6250	H-2	Oligocene	1
26	6300	H-2	"	1
27	6350	H-2	"	1
28	6400	I-1	"	0
29	6450	I-1	"	2
30	6500	I-2	"	1
31	6550	I-2	"	1
32	6600	J-1	"	1
33	6650	J-1	"	0
34	6700	J-1	"	0
35	6740	J-1	"	2
36	6820)	indeterminate planktonic fauna		
37	6860)			
38	6900)			
39	6950)			
40	7000)			
41	7029)	no fauna found		
42	7049)			
43	7075)			

** Code numbers are not the original side wall core number as two runs were shot.

side wall core code
refer page 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
shallow water Cibicides spp	D	D	D	D	D	D	D	D	D	D	D	D	D	X	D	D	X	X	X	X	X	X	X	D	D	D	D	D	D	X	D	D	X	X	X	.			
adherent Cibicides & Karreria	X	X												X									X																
Miliolids			X											X									X																
Cassidulina subglobosa & Sphaeroidina bulloides				X	X	X	X				X	D		D	X	X	X	D	D	X	X	X	X	X	X	X	X	X	D	D	X	D	D	X	X	X	D	D	D
Cibicides thiara											X		X	X	X	X		X	X	X	X	X	X	X															
"Bolivina" spp.																										X	X			X	.	.	X						
Siphouvigerina sp																												X		X	.	.	X						
Arenaceous species																											
Anglogenerina spp. & Trifarina sp.																																		X	.				
Nodosarids																																			X				
Bolivinopsis cubensis																																							
% of planktonics in total foraminiferal fauna	5	15	10	20	20	20	20	20	20	20	20	20	10	5	20	5	20	0	20	30	30	40	50	50	40	30	20	15	10	10	20	30	20	60	70				
relative specimen count	100	100	200	100	100	200	100	100	100	100	200	200	100	500	500	500	500	500	500	700	1000	500	500	1000	1000	500	500	1000	1000	2000	2000	2000	2000	2000	20	50	20	20	
Benthonic diversity	4	7	3	10	10	6	6	4	4	3	3	5	4	4	2	8	8	2	8	5	6	6	5	6	10	10	5	6	10	4	10	10	10	18	12	3	2	2	3
ENVIRONMENT	INNER SHELF										MID SHELF					MID SHELF					TRANSGRESSION & SHELF DEVELOPMENT POOR OXYGENATION					LAGOONAL or ESTUARINE LOW pH													
DEPTH											4302 4450					6450					6820				7000														
ZONE	D - 1										D - 2					E F G G H-1 H-1 H22					I-1 I-2 J-1 J-1				? ? N.F.F.														

BASIN GIPPSLAND

BY David Taylor

Form R 193 3/71

WELL NAME Bullseye-1

DATE 1.9.74

ELEV. _____

Foram Zonules

		Highest Data	Quality	2 Way Time	Lowest Data	Quality	2 Way Time
MIOCENE	A	Alternate					
	B	Alternate					
	C	2800	2		2900	0	
		Alternate					
	D ₁	3100	1		4302	0	
		Alternate					
	D ₂	4450	0		4775	2	
		Alternate			4600	1	
	E	4900**	0		4900**	0	
		Alternate					
	F	5050	1		5050	1	
	Alternate						
G	5200	0		5640	1		
	Alternate						
H ₁	5900	1		6200	0		
	Alternate						
H ₂	6250	1		6350	1		
	Alternate						
OLIGOCENE	I ₁	6400	0		6450	2	
		Alternate					
	I ₂	6500	1		6550	1	
		Alternate					
	J ₁	6600	1		6740	2	
	Alternate	6650	0	6700	0		
	Alternate						
EOC.	K	Alternate					
	Pre K						

** S.W.C. at 4900 contains late E fauna = E-1

COMMENTS: S.W.C.s 6820, 6860, 6900 and 6950 contained indeterminate planktonic faunas of late Eocene or early Oligocene aspect.
No fauna was found in S.W.C.s at 7000, 7029, 7049 & 7075.

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 _____

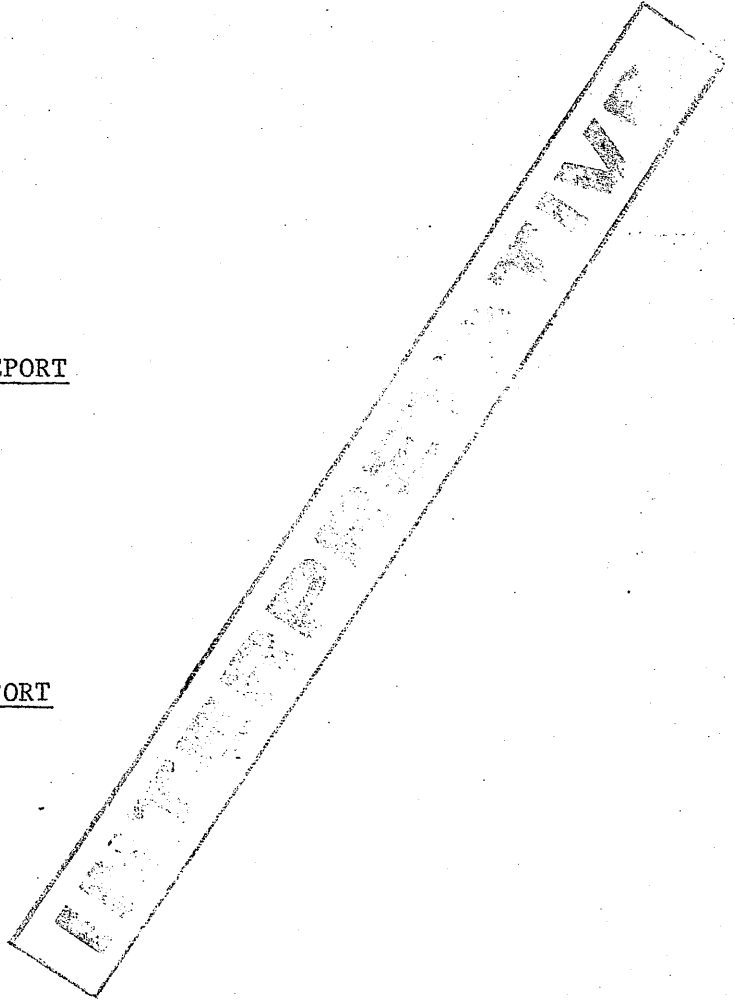
By _____

WELL COMPLETION REPORT

BULLSEYE-I

PALYNOLOGICAL REPORT

by L.E. Stover



PALYNOLOGICAL DETERMINATIONS FOR BULLSEYE-1,
GIPPSLAND BASIN, AUSTRALIA

by
Lewis E. Stover

SUMMARY

(Depth (in feet))	Zone	Age
6700	Upper <i>N. asperus</i> or younger	Late Eocene or Oligocene
6820 - 7000	Lower <i>N. asperus</i> ("B" subzone)	Middle to Late Eocene Eocene
7029 - 7132	Lower <i>N. asperus</i> ("A" subzone)	Middle Eocene
7326	<i>P. asperopolus</i>	Early Eocene
7458 - 7703	Barren Interval	
7730	Lower <i>M. diversus</i>	Early Eocene

The above determinations are based on spore-pollen and dinoflagellate assemblages recovered from 11 of 16 sidewall cores. Preservation is generally fair to good with occasional well preserved specimens present in most assemblages. Recycled Permian spore-pollen occur at 6700, and 6860 feet while recycled Early Cretaceous forms were identified in assemblages from 6700, 7326 and 7730 feet. Dinoflagellates occur in all fossiliferous samples and the occurrences of spore-pollen species are shown on the accompanying distribution sheets.

LIST OF SAMPLES

SWC	Depth	Zone	Age	Rtg.
23	6700'	Upper <i>N. asperus</i> or younger	Late Eocene or Oligocene	2
21	6820'	" " " "B"	" "	1
20	6850'	" " " "	" "	0
19	6900'	" " " "	Middle to Late Eocene	0
18	6950'	" " " "	" " " "	0
17	7000'	" " " "	" " " "	0
16	7029'	Upper <i>N. asperus</i> "A"	Middle Eocene	1
15	7049'	" " " "	" "	1
13	7132'	" " " "	" "	1
11	7326'	<i>P. asperopolus</i>	Early Eocene	2*
8	7458'	Barren		
6	7545'	"		
5	7596'	"		
4	7650'	"		
2	7703'	"		
1	7730'	Lower <i>M. diversus</i>	Early Eocene	1

*Alternate interpretation for SWC 11 at 7326 is Upper *M. diversus* zone; assemblage no older than Upper *M. diversus* or younger than *P. asperopolus*.

CONCLUSIONS

The spore-pollen assemblage from 6700 feet is fairly typical of the assemblages known from the Late Eocene-Oligocene part of the section. Microplankton are common and indicate deposition in a marine environment.

Spore-pollen from the Lower *N. asperus*, *P. asperopolus* and Lower *M. diversus* zones in Bullseye-1 are generally much less diverse than comparable assemblages in other wells. Part of the low species diversity is attributable to the paucity of proteaceous pollen throughout the well and part is most likely due to the more marine aspect of the assemblages. The latter is shown by the fairly high diversity and/or common occurrence of dinoflagellates in nearly all of the samples. The presence of dinoflagellates contributed substantially by providing information helpful in making zone interpretations. Such determinations would have been less well documented and in some cases less precise if spore-pollen alone were available.

WELL COMPLETION REPORT

BULLSEYE-1

FORMATION TEST RESULTS

PE902321

This is an enclosure indicator page.
The enclosure PE902321 is enclosed within the
container PE902320 at this location in this
document.

The enclosure PE902321 has the following characteristics:

ITEM_BARCODE = PE902321
CONTAINER_BARCODE = PE902320
NAME = Formation Tester Recovery Data
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = FIT
DESCRIPTION = Formation Tester Recovery Data
(enclosure from WCR) for Bullseye-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W677
WELL_NAME = Bullseye-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902323

This is an enclosure indicator page.
The enclosure PE902323 is enclosed within the
container PE902320 at this location in this
document.

The enclosure PE902323 has the following characteristics:

ITEM_BARCODE = PE902323
CONTAINER_BARCODE = PE902320
NAME = Bullseye Prospect Structure Map Top of
Latrobe
BASIN = GIPPSLAND
PERMIT =
TYPE = SEISMIC
SUBTYPE = STRUCTURE_MAP
DESCRIPTION = Bullseye Prospect Structure Map Top of
Latrobe (enclosure from WCR) for
Bullseye-1
REMARKS =
DATE_CREATED = 28/04/1974
DATE_RECEIVED =
W_NO = W677
WELL_NAME = Bullseye-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE601439

This is an enclosure indicator page.
The enclosure PE601439 is enclosed within the
container PE902320 at this location in this
document.

The enclosure PE601439 has the following characteristics:

ITEM_BARCODE = PE601439
CONTAINER_BARCODE = PE902320
NAME = Well Completion Log
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = COMPOSITE_LOG
DESCRIPTION = Well Completion Log (enclosure from
WCR) for Bullseye-1
REMARKS =
DATE_CREATED = 28/02/1974
DATE_RECEIVED =
W_NO = W677
WELL_NAME = Bullseye-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE601440

This is an enclosure indicator page.
The enclosure PE601440 is enclosed within the
container PE902320 at this location in this
document.

The enclosure PE601440 has the following characteristics:

ITEM_BARCODE = PE601440
CONTAINER_BARCODE = PE902320
 NAME = Baroid ppm Log (Mud Log)
 BASIN = GIPPSLAND
 PERMIT =
 TYPE = WELL
 SUBTYPE = MUD_LOG
 DESCRIPTION = Baroid ppm Mud Log (enclosure from WCR)
 for Bullseye-1
 REMARKS =
 DATE_CREATED = 04/12/1973
 DATE_RECEIVED =
 W_NO = W677
 WELL_NAME = Bullseye-1
 CONTRACTOR = BAROID
 CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902322

This is an enclosure indicator page.
The enclosure PE902322 is enclosed within the
container PE902320 at this location in this
document.

The enclosure PE902322 has the following characteristics:

ITEM_BARCODE = PE902322
CONTAINER_BARCODE = PE902320
NAME = Time Depth Curve
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Time Depth Curve (enclosure from WCR)
for Bullseye-1
REMARKS =
DATE_CREATED = 04/12/1973
DATE_RECEIVED =
W_NO = W677
WELL_NAME = Bullseye-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)