LAKES OIL N.L.

(A.C.N. 004 247 214)
as operator for

PETRO TECH PTY. LTD.

(A.C.N. 009 116 429)
Permit Holder

WOMBAT - 2
EXPLORATION APPRAISAL WELL
PEP 157 VICTORIA

WELL COMPLETION REPORT
BASIC GEOTECHNICAL DATA

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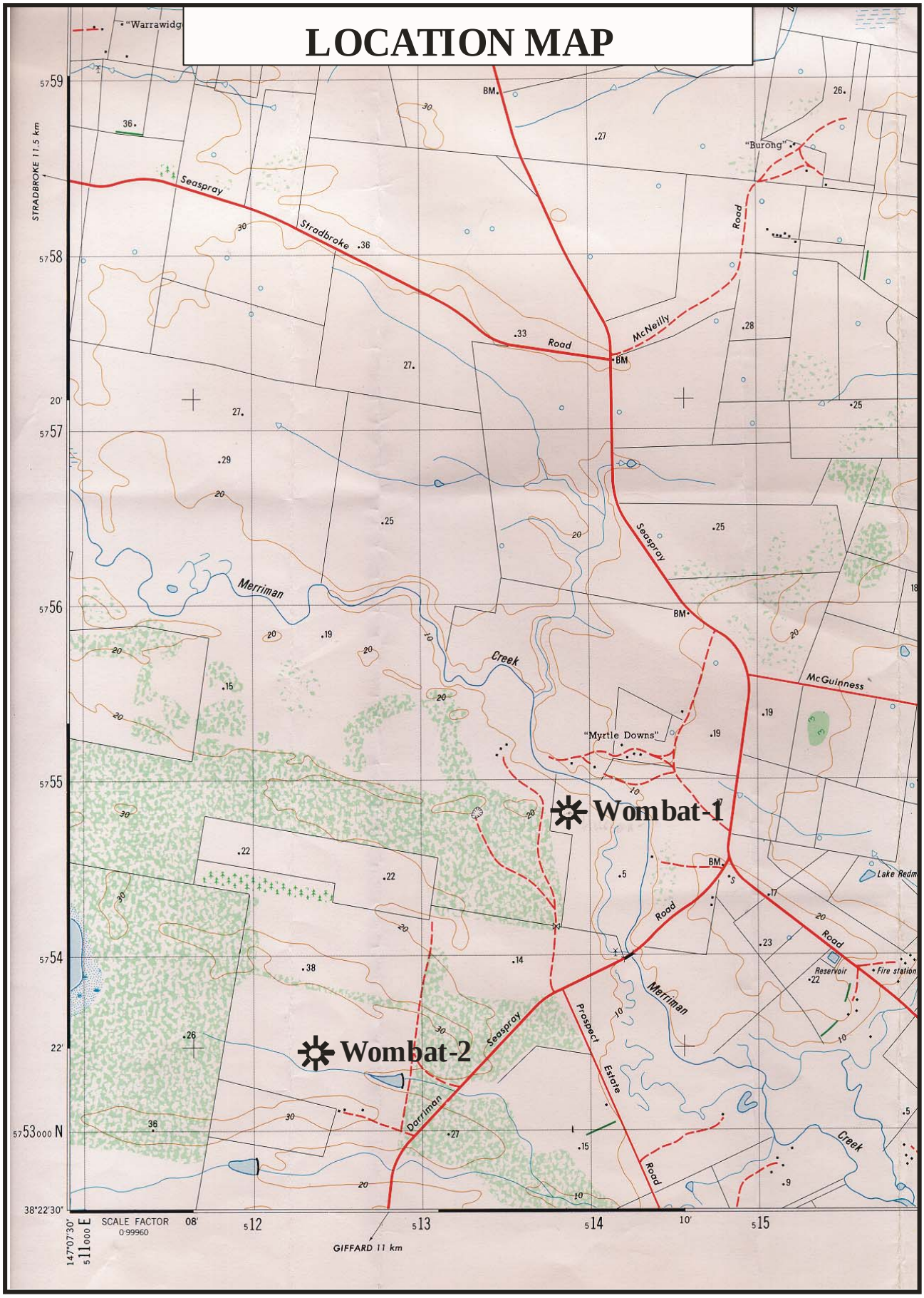

1.0 SUMMARY

Wombat - 2 well was located in PEP 157 and was designed to appraise the extend of the Golden Beach Group and Strzelecki Group gas accumulation discovered by the Wombat-1 exploration well.

The well was located approximately 3.3 km north west of Seaspray. Access was via a local farm track on the north side of the Derriman-Seaspray Road approximately 1.3 km west of the Seaspray Road. The location was approximately 1 km north of the Derriman-Seaspray road (Figure 1).

The well is sited some 2 km southwest of the discovery well (Figure 2). It is located on the spine of the structure as mapped at top Golden Beach level and was assumed to intersect the Golden Beach 50 m higher than the discovery well.

Wombat No.2 was spudded on the 30th of March, 2004. 445mm hole was drilled to 305m, with 340mm casing run to 283m. 311mm hole was then drilled to 1363m, and 244mm casing run to 1359m. 216mm hole was drilled to 1550m, with 178mm casing run to 1549m.

One core was cut from 1497 to 1506m with 54% recovery. Four open hole tests were conducted in the Strzelecki Group. DST No. 1 & 1A were misruns due to LaTrobe water channeling from behind the casing. DST No.2 was conducted from 1400 to 1428m in an intera Strzelecki sand and flowed gas at 217 MCFD. DST#3 was conducted from 1464 to 1497m. and flowed gas from an Intra Strzelecki sand at 470 MCFD.

Electric logs were conducted upon reaching T.D. with MRS-DLS-CSS-GR-SP-CAL, PDS-CNS-GR-CAL (1550 – 1350m.) and GR to surface.

The hole was drilled with a PHPA/KCl mud system to 1363m, and from 1363 to 1550m with a FLC-2000 system. Water supply was trucked to site.

The Strzelecki Group had significant gas readings indicating probable and tested gas across several broad sand intervals with total gas readings ranging up to 3585 units.

From electric log response, mudlog gas analysis and drill stem testing, a gross gas column appears to exist through the interval 1375 to 1501m.

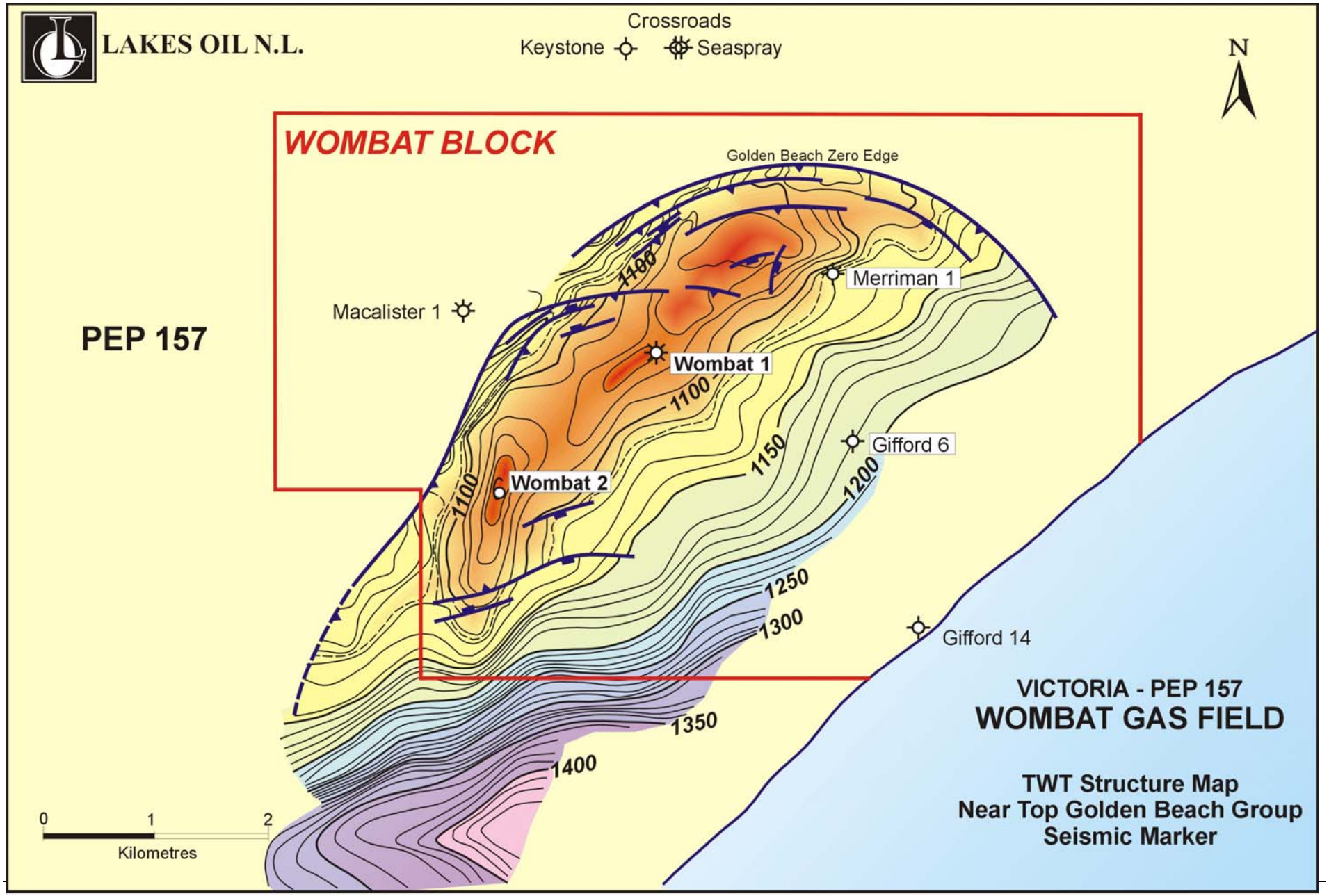

Figure 2 Time-structure map showing location of Wombat 2 and the NE-trending Merriman structure mapped by Roger Meaney

2.0 WELL HISTORY

2.1 General Data

Well name and number:	Wombat - 2
Location:	AMG Co-ordinates 512395.13 E 5753480.99 N Latitude: 38° 22’ 0” S Longitude: 147° 08’ 31” E
Elevations:	G.L. 22.09m A.S.L. R.T. 25.74 A.S.L.
Petroleum tenement:	PEP 157
Name of operator:	Lakes Oil N.L. Level 11, 500 Collins Street Melbourne Victoria 3000
Other participants:	None
Date drilling commenced:	30 March 2004
Date drilling completed:	22 April 2004
Date rig released:	29 April 2004
Drilling time to total depth:	23 days
Total depth	1550 metres
Status:	Completed for gas production testing

2.2 Rig Data

Drilling contractor:	Hunt Energy and Mineral Co. Australia Pty. Ltd.
Rig:	Al Hicks Model AH-100
Substructure:	Box type
Weight indicator:	Hydraulic Pressure
Power:	2 engine compound
Rotary:	Oilwell Mdl-175
Blocks:	Sowa Model S-150-4, 150 ton
Pumps:	1X Tri Service Machine TSM-500 7.5X16" Duplex 1X Continental Emsco DB-550 (7.5X16") Duplex

Mud mixing:	Demco Style Hopper with 6X8 centifugal pump
Sump pump:	Cellar Jet
Transfer pump:	2X3" portable
Tubulars:	5.5" X 13.30lbs/ft Grade "E" D.P.
Fishing tools:	1X Bowen C-5342 Overshot 1Xbowen C-5171 Overshot
Handling tools:	Elevators/Slips/Safety Clamp/Rotary Tongs/Chain Tongs
Stablizers:	17.5", 12.25", 8.5" , 6"
Spare Parts:	As reasonably required to conduct operations for programmed well
Personnel:	13 Rig plus camp staff.
Drilling Hours:	24 hours with 12 hour shifts

2.3 Drilling Data

Drilling operation summary

The following is the daily operations summary for Wombat No.2. It has been compiled from the daily drilling reports. Onsite drilling supervision for Lakes Oil N.L. was provided by L. DeVattimo. Further details are provided in the time/depth curve (Figure 3).

Wombat No.2 was spudded at 2230hrs on the 30th March 2004. A 508mm conductor was preset at 15.65m RKB prior to spud. The well was spudded with 445mm hole. 445mm hole was drilled from surface to 305m without hole problems. The hole was conditioned prior to running 340mm casing. 340mm casing was run to 283m whereupon the casing became differentially stuck. The 340mm casing was subsequently cemented at 283m. BOP's were then installed and pressure tested before drilling out the shoe track. After drilling out the shoe track the mud system was displaced to a KCl/Polymer system before drilling ahead with 311mm hole. 311mm hole was drilled to 779m where a wiper trip was conducted encountering minor tight hole. Drilling recommenced and 311mm was drilled to 920m before a trip for a bit change was conducted. Drilling 311mm hole then continued without problems to 1139m where a wiper tip was conducted encountering tight hole across a coaly section at 956m. Drilling recommenced to 1147m where the bit was tripped out of hole due to low penetration rate and high torque. After changing out the bit, drilling 311mm hole then continued to 1223m where the bit was changed out. Drilling 311mm hole then recommenced to 1349m where the drill string torqued up and then spun backwards causing the drill string to back off at approximately 965m. The backed off pipe was then tripped out of hole before running in hole with an overshot dressed with a 156mm (6.125”) spiral grapple. After successfully retrieving the fish, the stabilizer was layed out, and the drilling assembly run in hole. Drilling 311mm hole then recommenced and continued to 1363m where the hole was circulated clean prior to running 244mm casing to 1359m.

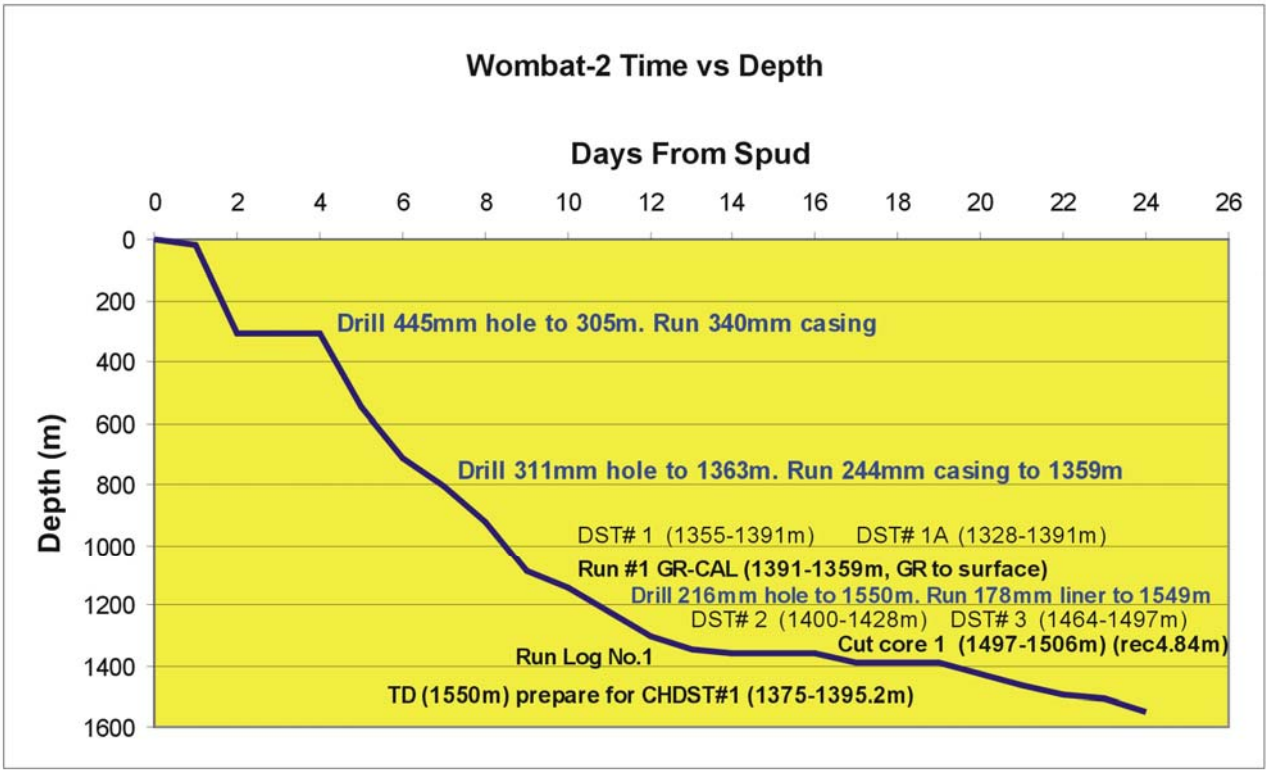

Figure 3 Time versus depth curve of Wombat-2

After cementing the casing a "B" section was installed, the BOP's nippled up and pressure tested, and a 216mm drilling assembly run in hole. After drilling out the cement and shoe track to 1363m, the mud system was converted to FLC-2000 system, before 244mm hole was drilled to 1366m, where a FIT was conducted to a E.M.W. of 11.4 lb/gal (450 PSI with a 9.4lb/gal M.W.).

Drilling continued to 1391m where a geological sample was circulated (maximum gas 3584 units), the mudweight increased to 10.2 PPG (1.22 SG) before tripping out of hole for DST No.1. Run DST No.1 from 1355 to 1391m. IF 15 mins, ISI 30 mins, FF 30 mins, FSI 30 mins, GTS 12 mins at 46 PSI through a 0.25" choke (Q = 89 MCFD) (C1 93%, C2 5%, C3 2%, C4 trace, C5 trace). Tool pulled due to probable plugging during initial flow, recovered trace condensate on reverse circulation. A cleanout trip was then conducted prior to running was then run in hole and drilling continued to 1428m where the hole was circulated clean prior to DST No. 1A 1328 to 1391m. IF 240 mins, ISI 60 mins (one flow period), GTS 25 mins at RTSM, on reverse circulation recovered full string of fresh water - possibly channelled from LaTrobe Formation. POOH with test tools. RIH with electric logs. Run No.1 GR-Cal 1391-1359, GR to surface. The logging tools were then rigged down prior to performing a leak off test to 300 PSI with no leak off. The 216mm drilling assembly running DST No.2. DST No.2, 1400-1428m, IF 227 mins, FSI 120 mins, GTS 7 mins, stabilized flow 138 PSI through a 0.25" surface choke (Q = 217 MCFD), no recovered fluids. Drilling 216mm hole then recommenced and continued to 1497m where a geological sample was circulated out prior to running DST No.3. POOH at 1497m for DST No.3. Run DST No.3 1464-1497m. IF 11 mins, ISI 45 mins, FF 60 mins, FSI 180 mins. GTS 6 mins, maximum flow 307 PSI through a 0.25" choke (Q = 470 MCFD). After performing DST No.3, the core barrel was made up and RIH for Core No.1, 1497-1506m (9m), recovered 4.84m (54%). The 214mm drilling assembly was then run in hole and drilling continued to 1550m total

depth reached at 2200hrs 22nd April, 2004. After conditioning the hole electric logs were run. Run No.1 MRS-DLS-CSS-GR-SP-CAL,PDS-CNS-GR-CAL. After logging, the drill string was laid out and 178mm casing run to 1549m.

After installing a tubing spool a 218mm (7 1/16") BOP with 89mm (3.5") rams was installed before a 152mm (6") bit was with 89mm (3.5")drill pipe was run in hole tagging the top of cement inside casing at 1434m. Drilled out top plug at 1434m and cement to 1536m. before displacing annulus to brine. After tripping out the 152mm (6") bit. A CBL-VDL-CCL was run.

On 28 April 2004, Cased Hole DST#1 was conducted, but it resulted in flowing water from the overlying Latrobe Group, once again aborting attempts to test the top sand of the Strzelecki Group.

The rig was released at 7 a.m. 29 April, 2004.

Hole sizes and depths:

TABLE 1

HOLE SIZE	INTERVAL
17.5" (445mm)	Spud to 305m.
12.25" (311mm)	305m to 1363m.
8.5" (216mm)	1363m to 1550m.

Casing and cementing:

TABLE 2

TYPE		CONDUCTOR	CASING	CASING	CASING
Size	mm	508	340	244	178
Weight	kg/m	140	54.5	53.6	26.0
Grade		K55	K55	K55	
Connection		Weld	BTC	BTC	BTC
Joints		1	24	115	129
Length	m	12	283	245.5	1550.2
Shoe	m	15.65	283	1359	1549
Sacks			598		241
Class			A	A	A
Av. Wt.	ppg		12.5/15.8	15.6	15.8

Deviation Surveys:

TABLE 3

DEPTH	DEVIATION
50	0.25 degrees
254	0.25 degrees
295	0.5 degrees
448	0.25 degrees
700	0.5 degrees
1351	0.5 degrees
1550	1.5 degrees

Drilling Fluid:

(A) Spud - 305 m. Type: Freshwater Gel /Starch spud mud.

(B) 305 - 1359m. KCl/PHPA mud system.

(C) 1359 – 1550m. FLC-2000

Physical Mud Properties:

TABLE 4

DEPTH	M	305	545	713	809	920	1057	1147	1223	1307
Density	S.G.	1.10	1.13	1.22	1.23	1.23	1.22	1.23	1.21	1.21
Viscosity	sec	45	51	48	45	47	50	45	47	45
Water Loss	Cc	22.8	7.4	6.2	6.6	6.2	5.8	5.8	5.6	5.4
pH	strip	8.5	8.0	8.0	8.0	8.8	8.5	9.0	9.0	9.0
Filter Cake	32 nd	3	1	1	1	1	1.0	1	1	1
PV / YP	cp/lb/100	5/38	13/28	15/24	14/25	16/26	16 / 28	16 / 23	49 / 27	18 / 29
Gels	s/m	16/18	10/12	9/14	9/14	10/16	10 / 17/ 0	8 /15 /0	9 / 13 / 0	10 / 13 / 0
Sand	% Vol	0.75	0.75	0.5	0.75	0.5	0.75	0.75	0.75	0.75
Solids	% Vol	7.6	7	11	10.5	10	7.5	8.4	8.5	9.0
Hardness	CaMg/l					120				
K+	mg/l									
Chlorides	mg/l	800	18000	32000	31000	31000	32000	33000	32,000	33,000
PHPA	Lb/bbl	0	0.15	0.15	0.15	1.0	1.40	1.30	0.90	0.90
KCl	%	0	3.5	6.2	6.1	6.0	6.00 %	6.10 %	6.10	6.20

DEPTH	m	1363	1391	1428	1461	1497	1506	1550
Density	S.G.	1.23	1.23	1.23	1.23	1.23	1.24	1.23
Viscosity	sec	49	44	45	45	47	50	45
Water Loss	cc	5.00	6.4	7.20	7.2	6.0	6.0	6.40
pH	strip	8.00	8.50	9.00	9.00	9.00	9.5	9.50
Filter Cake	32 nd	1	1	1.0	1	1	1	1.00
PV/YP	cp/lb/100	17/28	16/23	45/15	45/13	47/15	50/16	45/14
Gels	s/m	10/15/0	8/12/0	11/15/0	10/14/0	11/15/0	12/16/0	12/15 /0
Sand	% Vol	1.00	0.25	0.25	0.25	0.30	0.30	0.25
Solids	% Vol	9.5	8.7	9.20	9.7	9.7	10.5	9.60
Hardness	CaMg/l							
K+	mg/l				2.997	3.006	2. 990	2.942
Chlorides	mg/l	33,000	30000	30,000	30000	31000	33,000	31,000
PHPA	Lb/bbl	0.50	0.30	0.10				
KCl	%		5.80	5.60		5.70	5.80	5.70

Water Supply:

Water was trucked to site from Sale.

Perforation:

See DST Report (Enclosure 3)

Completion:

Completed for potential gas production

Bit Data

TABLE 5

BIT NUMBER	1	2RR	3	4RR	5	6 RR-# 5	7	8 RR# 7	Core bit # 1	9 RR #7
Size (mm)	445	311	311	311	311	311	216	216mm	216mm	216 mm
Make	Security	Varel	Varel	Security	Security	Security	Varel	Varel		Varel
Type	XTI SC	TGR	ETR1GJMS	XSI	EBX SCI	EBX SCI	CHIGMS	CHIGMS	CD 93	CHIGMS
IADC Code	1.1.5	1-1-5	1-1-5	1-1-6	1-1-7	1-1-7	1-1-7	1-1-7		1-1-7
Serial Number	10406132	43422038	179020	1040660	10523506	10523506	197685	197685	7970035	197685
Nozzles (32)	16-18-18-18	18-18-18	18-18-18-18	16-16-16-16	16-16-16-16	16-16-16-16	13-13-13	13-13-13		13-13-13
Depth in (m)	15	305	920	1147	1223	1223	1363	1428	1397	1506
Depth out (m)	305	920	1147	1223	1349	1363	1391	1497	1506	1550
Total Metres	290	615	227	76	126	140	28	69m Total 134m		178
Hours	18	70.5	37	15.5	19.50	23	3.5	27.50		24.50
WOB (kg)	1000	10,000	10	12.5	12.5	12	7	15		15
RPM	60 – 90	100	100	90	100-120	100	100	100		100
Condition	10% worn		5-5-RG-A-E-2-WO-PR	Worn out	10 % worn	2-2-NO-A-1-1-NO-TD	As new	2-2-NO-A-2-1-NO-DST		
Impact Force								413.1 lb ft		491.6 lb/ft
Jet Velocity						229 ft/sec		254/ft sec		277 ft/sec

2.4 Logging and Testing

Wellsite Geologist:

David Horner

Mudlogging:

F.I.D. total gas, chromatograph. 24 hour Mudlogging unit supplied by Geoservices.

Ditch Cutting Samples:

Cuttings were collected at 10 meter intervals from spud to 400m, then at 3m intervals to 1550m (T.D.) these being 1 set 500gm unwashed calico bag, 2 sets 100 gm washed and dried and 1 set washed samplex trays.

Coring:

One core was cut: Core No.1 (Cut 1497-1506m (9m), recovered 4.84m (54%) (1497-1501.84m).

See core analysis description (Appendix 2).

Sidewall Cores:

No sidewall cores were taken.

Testing:

Three open hole tests and one cased hole test were conducted.

DST No.1 1355 to 1391m. IF 15 mins, ISI 30 mins, FF 30 mins, FSI 30 mins, GTS 12 mins at 46 PSI through a 0.25" choke (Q = 89 MCFD). Tool plugged during initial flow, recovered trace condensate and rathole mud on reverse circulation.

DST No. 1A 1328 to 1391m. IF 240 mins, ISI 60 mins (one flow period), GTS 25 mins at RTSM, on reverse circulation recovered full string of fresh water - possibly channelled from LaTrobe Formation.

DST No.2, 1400-1428m, IF 227 mins, FSI 120 mins, GTS 7 mins, stabilized flow 138 PSI through a 0.25" surface choke (Q = 217 MCFD), no recovered fluids.

DST No.3. Run DST No.3 1464-1497m. IF 11 mins, ISI 45 mins, FF 60 mins, FSI 180 mins. GTS 6 mins, maximum flow 307 PSI through a 0.25" choke (Q = 470 MCFD).

CHDST No. 1 was run unsuccessfully because the poor hole and cement condition prevented proper perforation into the reservoir, thus once again the attempt to test the top sand could not be fulfilled.

Wireling Logs:

Suite No.1:

Run No.1 GR-Cal 1391-1359m., GR to Surface.

Suite No.2:

Run No.1 MRS-DLS-CSS-GR-SP-CAL, PDS-CNS-GR-CAL (1550 – 1359m.).

Run No.2 PDS-CNS-GR-Cal

Bottom Hole Temperature:

62^0C

Velocity Survey:

No velocity survey was conducted.

3.0 GEOLOGY

3.1 Regional Geology

The Gippsland Basin is an early Cretaceous to Cainozoic basin occupying approximately 46,000 square kilometers of the southeastern margin of the Australian continent. The basin is flanked on the north, west and south-west by Palaeozoic rocks and confined between the structural uplifts of the Victorian Highlands in the north and the Bassian Rise in the south. The eastern margin of the basin is open to the Tasman sea. The Gippsland Basin is an east-west trending half graben feature with 70% of its area beneath Bass Strait and 30% onshore (Figure 4).

With the exception of occasional wildcat drilling in the boom of the 1980's, exploration of the onshore Gippsland Basin has been largely ignored since the 1970's.

The early exploration activities in the onshore part were aimed primarily at the Early Cretaceous Strzelecki Group and, later on after successful drilling offshore, at the top of the LaTrobe Group "coarse clastics", but a lack of understanding of the stratigraphy and the mechanism of hydrocarbon generation, migration and timing of structures, along with the poor quality of the seismic and well log data, resulted in a downgrading of the hydrocarbon potential of the onshore area.

3.2 Permit PEP 157

Lakes Oil N.L. acquired the PEP 137 (now PEP 157) permit in April 1999, following the drilling by Roma Petroleum N.L. of the McCreesh-1 well, an unsuccessful test of the top LaTrobe Group sands. PEP 157 covers an area of 1,680 square kilometers within the onshore Gippsland Basin. The permit extends over the northern part of the Seaspray Depression, the southern portion of the Lake Wellington Depression and part of the Baragwanath Anticline. Fourteen exploration wells have been drilled from 1962 - 2003, with Lakes Oil N.L. having tested gas at the North Seaspray-3, Trifon-1 and Gangell-1 (Figure 5). North Seaspray-3 was a follow up to Woodside/Lakes Oil North Seaspray-1 well, which also flowed gas from the top of the Strzelecki Group.

3.3 Exploration History

Hydrocarbon exploration commenced in the onshore region of the basin in 1924 when the Lake Bunga No.1 well encountered traces of oil and gas, leading to the discovery and development of the Lakes Entrance oil field. The oil accumulation is found within a glauconitic sand member of the Oligocene Lakes Entrance Formation which appears to have acted as a 'thief zone' for oil migrating along the pre-Tertiary unconformity. The field produced a total of 10,000 bbls of 15.7 API gravity oil before production ceased in 1956. Aside from the Lakes Entrance oil accumulation, wet gas flowed to the surface during testing from the Strzelecki sandstones at North Seaspray 1 and 3, Gangell-1 and Trifon-1.

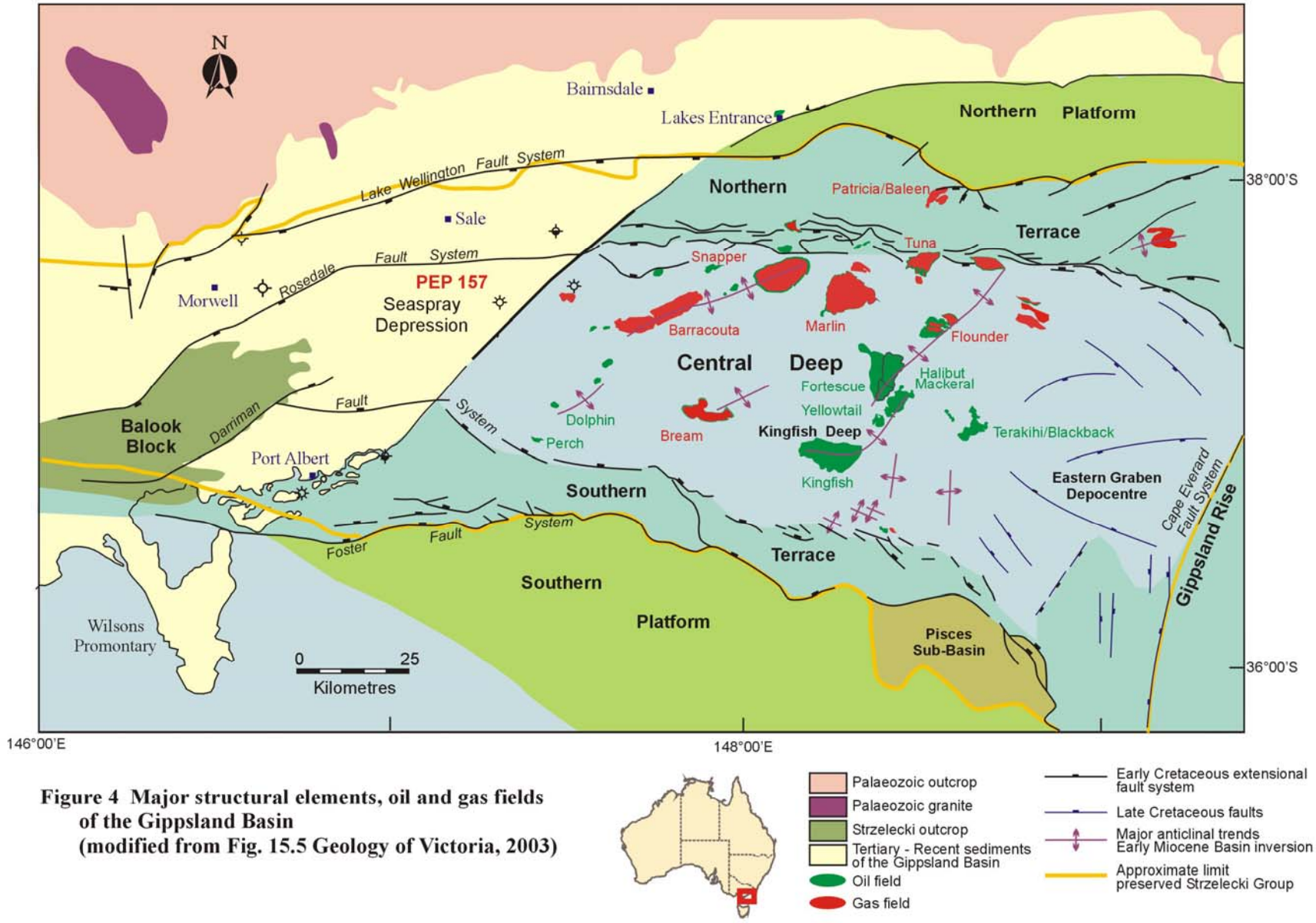

Figure 4 Major structural elements, oil and gas fields of the Gippsland Basin (modified from Fig. 15.5 Geology of Victoria, 2003)

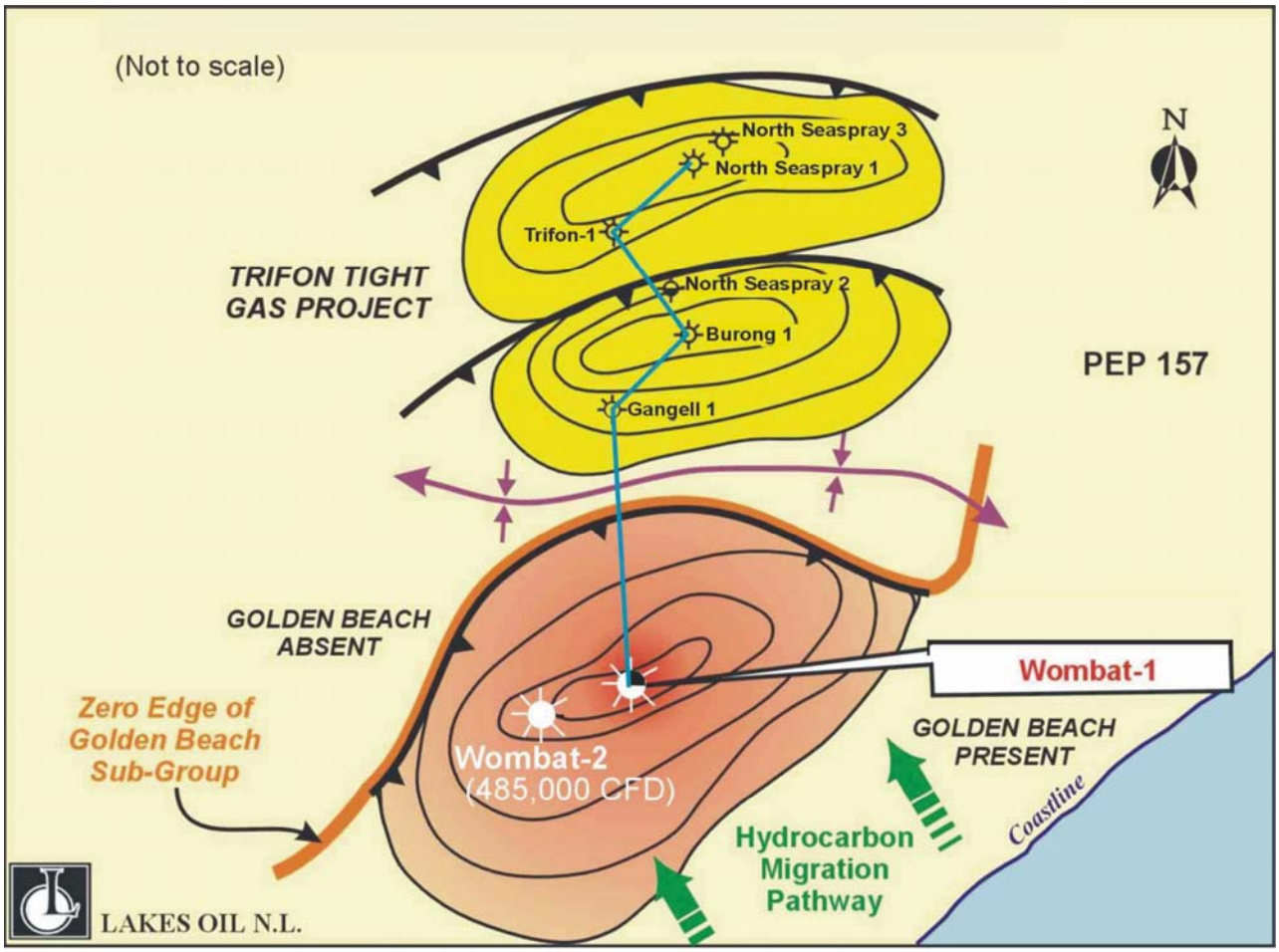

Figure 5 Schematic diagram showing gas discoveries so far from onshore Gippsland PEP 157, it also displays major structures and faults.

Petroleum exploration in the permit commenced in the early 1960s and continued into the early 1970s, conducted mainly by Woodside and Arco, with eight wells being drilled within the permit. This exploration originally had as its main objective the Strzelecki Group, with emphasis moving to the LaTrobe Group later in this period. Few of these wells, except for North Seaspray-1, are thought to be located within closure at the Top LaTrobe Group level.

Several shallow bores have been drilled in the vicinity of PEP 157 by Victorian Electricity, Coal and Water Resources authorities; however, none of these bores encountered LaTrobe Group reservoirs at a significant depth or within closure.

During 1985, Hartogen Energy Ltd drilled Burong-1 to test the Top LaTrobe at the crest of a northeast trending asymmetrical anticline which is fault controlled to the northwest. While the LaTrobe Group contained excellent reservoir rock, no significant shows were recorded within this section.

Recently, Lakes Oil has drilled nine wells within their onshore Gippsland permits. PetroTech-1 targeted greensands of the Lakes Entrance Formation but was not tested; Hunters Lane-1 produced oil from the same formation but at a non-economic rate; Baudin-1 and Investigator-1, which both targeted Lower LaTrobe Group sands, were unsuccessful, probably due to lack of seal. North Seaspray-3, Trifon-1 and Gangell-1 drilled between 2000 and 2001, all targeted Strzelecki Group sands. Boundary Creek-1 corehole was drilled in 2001 to obtain information on reservoir quality within the Strzelecki Group. York-1 was drilled in March 2002 as a Latrobe Group test of a robust four way dip closure located 7 km south of the town of Woodside in PEP 158. Later in 2002 Deadman Hill-1 and Protea-1 stratigraphic holes were drilled in PEP 157. They were designed to locate the pinchout of Golden Beach Group sediments between Colliers Hill-1 and Boundary Creek-1. Wombat-1 has tested the highest

3.4 Tectonic History

The Gippsland Basin is a rift basin, which originated in the Late Jurassic to Early Cretaceous and consists of alternating half graben structures along its east-west trend (Figure 4). It is characterised by a deep central basin, flanked by northern and southern terraces. In the onshore area, the Late Cretaceous movements were accompanied with volcanism in the western margin of the basin. Several phases of positive structural inversion occurred in the Gippsland Basin from Mid-Oligocene to the present time, creating the major hydrocarbon bearing structures seen in the offshore region. The main phase occurred during the Late Miocene, which resulted in inversion of existing features and the creation of anticlinal structures.

3.5 Structural Elements

The onshore area can be tectonically sub-divided into six major areas (Figure 4):

(A) Lakes Entrance Platform (Northern Platform): This lies immediately south of the Eastern Highlands, where the Palaeozoic Basement gently slopes southwards and is unconformably overlapped by Oligocene - Miocene marine sediments and thin Pliocene - Quartenary continental deposits.

(B) LaTrobe Valley Depression: This lies between the Palaeozoic Eastern Highlands to the north and the Early Cretaceous Balook Block to the south. Over 700 meters of continental LaTrobe Valley sediments are present in this area.

(C) Lake Wellington Depression: This lies to the south of the Lakes Entrance Platform, where over 1200 meters of Eocene to Pliocene sediments unconformably overlie the Early Cretaceous rocks. This trough is offset from the LaTrobe Valley Depression to the west, by left lateral displacement on the Yinnar Transfer Fault Zone which occurred during the Tertiary. The boundary also closely coincides with the western limit of marine Tertiary sediments. To the east it merges with the Strzelecki Terrace.

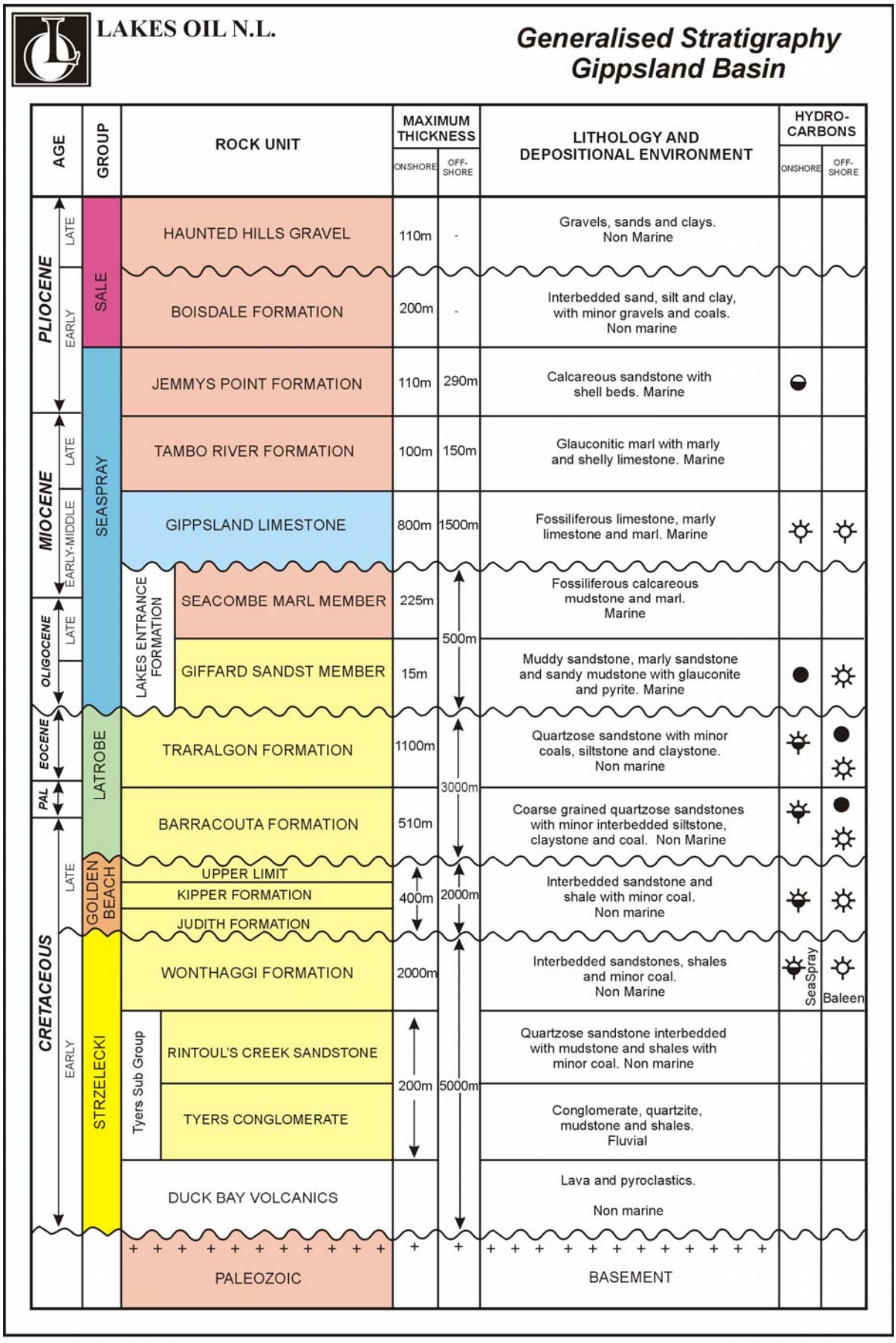

Figure 6 Generalised stratigraphy of the Gippsland Basin, showing horizons of hydrocarbon discoveries

(D) Baragwanath Anticline: This is the eastern extension of the outcropping Balook High. It is an Early Cretaceous block, which was elevated during the Late Miocene time as a result of the renewed lateral strike slip wrenching along the Boundary Fault Systems. It separates the Lake Wellington Depression to the north from the Seaspray Depression to the south. On the crest of the structure, thin Miocene strata are succeeded unconformably by a veneer of Pliocene-Pleistocence sediments. On the flanks of the structure, however, the Miocene sediments wedge out towards the crest by onlap at the base and erosion at the top of the sequence.

(E) Seaspray Depression: This is the onshore extension of the Central Deep. It occupies the southern onshore part of the basin, where the most complete stratigraphic section is present. The permit occupies the northeastern end of the Seaspray Depression.

(F) Seaspray Depression: This is the onshore extension of the Central Deep. It occupies the southern onshore part of the basin, where the most complete stratigraphic section is present. The permit occupies the northeastern end of the Seaspray Depression.

(G) South Terrace: Wilson's Promontory is an erosional remnant of a broad shallow basement platform bounding the Gippsland Basin on its southern side. The Southern Terrace represents the edge of this platform. The Chitts Creek Conglomerate onlaps the South Terrace as a mirror image to the Tyers Conglomerate on the North Terrace.

3.6 Reasons For Drilling

Wombat - 2 well was designed to appraise the extent of the Golden Beach Group and Strzelecki Group gas accumulation discovered by the Wombat No. 1 exploration well. The well is sited some two kilometers southwest of the Wombat No. 1 discovery well. It is located on the spine of the big NE-SW trending structure as mapped at the Top Golden Beach level.

3.7 Stratigraphy

Wombat - 2 well encountered the following lithological succession:

4 - 30 metres
Massive loose sand (100%)

SAND: light orange grey, very fine to very coarse, dominantly coarse, subangular to rounded, poorly sorted, no cement, trace orange brown argillaceous matrix, quartzose, common orange brown stained quartz grains, trace orange lithics, unconsolidated, very good inferred porosity.

30 – 118 metres
Sand (100%) with minor Claystone (trace) and Shell Fragments.

SAND: light grey to medium brown to dark brown grey, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, no cement, trace to common medium grey argillaceous and silt matrix, quartzose, trace to common orange black stained quartz grains, trace black lithics, trace black coal detritus, abundant shell fragments at base, unconsolidated, very good inferred porosity.

CLAYSTONE: medium to dark grey, very silty, soft, very dispersive, non fissile.

SHELL FRAGEMENTS: off white to light brown, bivalves, gastropods, forams.

118 – 133 metres

Massive Marl (100%).

MARL: light to medium grey to medium green grey to medium brown grey, abundant fossil fragments including bryozoa, forams, shell fragments, echinoid spines and sponge spicules, very soft, very dispersive and washing from samples, non fissile.

133 - 305 metres

Massive Calcarenite (100%)

CALCARENITE: light brown to light brown grey, minor yellow orange, fine to coarse grained, weak to moderate calcareous cement, abundant fossil fragments including echinoid spines, bryozoa, forams, shell fragments, slightly argillaceous, trace very fine quartz sand grains in part, trace medium green glauconite occasionally as fossil infill, friable, poor visual porosity, no oil fluorescence.

305 - 545 metres

Massive Calcarenite (100%)

CALCARENITE: light to medium brown grey, fine grained, moderate calcareous cement, very calcilutitic and calcisiltitic in part, trace fossil fragments including bryozoa and forams, moderately argillaceous to occasionally very argillaceous and marly in part, trace glauconite, friable, very poor visual porosity, no oil fluorescence.

545 - 614 metres

Calcarenite (90%) becoming more argillaceous with depth and in part grading to Marl (10%)

CALCARENITE: light to medium brown grey, fine grained, moderate calcareous cement, very calcilutitic and calcisiltitic, trace fossil fragments including bryozoa and forams, often very argillaceous and marly, trace glauconite, friable to moderately hard, very poor visual porosity, no oil fluorescence.

MARL: medium brown grey, very calcareous, trace fossil fragments in part, soft, sticky, non fissile.

614 - 713 metres

Massive Marl (90%) grading to Calcilutite (10%) - decreases with depth.

MARL: light to medium green grey, light to medium brown grey, very light grey to medium grey, very calcareous grading to calcilutite, trace fossil fragments, soft, sticky, non fissile.

CALCILUTITE: white to very light brown white, slightly to very argillaceous, siltitic in part, soft, sticky, non fissile.

713 - 776 metres

Massive Marl (100%)

MARL: light to medium green grey, light to medium brown grey, very calcareous grading to calcilutite, trace fossil fragments, trace to common glauconite increasing with depth from 750m, trace pyrite, soft to firm, non fissile.

776 - 920 metres

SANDSTONE (60%) interbedded with Silty Claystone (30%) grading to Coal (10%)

SANDSTONE: light brown, very fine to very coarse, dominantly coarse, subangular to rounded, poorly sorted, very weak silica cement, trace medium brown argillaceous and silt matrix, quartzose often with orange brown stain, trace green and grey black cherty lithics, trace black coaly detritus, friable, very good inferred porosity, no oil fluorescence.

SILTY CLAYSTONE: medium to dark brown grey, occasionally light brown, very finely arenaceous and kaolinitic in part, often very carbonaceous, common black coal detritus, soft, non fissile.

COAL: black, often dark brown and very argillaceous, earthy to subvitreous, blocky fracture, hard, brittle.

920 - 1111 metres

SANDSTONE (50%) interbedded with Silty Claystone (40%) and Coal (10%)

SANDSTONE: light brown grey to light grey, very fine to very coarse, dominantly medium to coarse, subangular to rounded, very poorly sorted, weak silica cement, trace brown argillaceous and silt matrix, clear to opaque quartz grains, trace green and grey black cherty lithics, common black coaly detritus, friable, very good inferred porosity, no oil fluorescence.

SILTY CLAYSTONE: medium to dark brown, occasionally light brown and kaolinitic, very carbonaceous, common black coal detritus, trace micromica, soft, non fissile.

COAL: dark brown to black, very argillaceous, earthy texture, blocky fracture, trace amber, hard, brittle.

1111 - 1133 metres

Massive SANDSTONE (100%).

SANDSTONE: light grey to light brown grey, very fine to grit, dominantly very coarse, angular to subrounded, poorly sorted, weak to moderate silica cement, common off white argillaceous matrix, clear to opaque quartz grains, trace green and black volcanogenic lithics, trace black coal detritus, friable, very good inferred porosity, no oil fluorescence.

1133 - 1147 metres

SANDSTONE (20%) interbedded with Claystone (80%).

SANDSTONE: light grey to light brown grey, very fine to grit, dominantly very coarse, angular to subrounded, poorly sorted, weak to moderate silica cement, common off white argillaceous matrix, clear to opaque quartz grains, trace green and black volcanogenic lithics, trace black coal detritus, friable, very good inferred porosity, no oil fluorescence.

1147 - 1302 metres

SANDSTONE (60%) interbedded with Claystone (40%).

SANDSTONE: light grey to light brown grey, very fine to very coarse, dominantly coarse, angular to subrounded, poorly sorted, moderate silica cement, common off white argillaceous matrix, clear to opaque quartz grains, trace green and black volcanogenic lithics, trace black coal detritus, trace coarse clear mica flakes, common pyrite, friable, good inferred porosity, no oil fluorescence.

CLAYSTONE: off white to medium brown, moderately to very silty, slightly to moderately carbonaceous, trace black coal flecks and detritus, trace micromica, trace pyrite, soft, non fissile.

1302 – 1353 metres

Sandstone (80%) interbedded with Claystone (20%).

SANDSTONE: light grey, very fine to pebble, dominantly very coarse, angular to subrounded, poorly sorted, moderate silica cement, common off white argillaceous matrix, clear to opaque quartz grains, trace green grey and black volcanogenic lithics, trace black coal detritus, trace coarse clear mica flakes, common pyrite, friable, good inferred porosity, no oil fluorescence.

CLAYSTONE: off white to medium brown grey, moderately to very silty, slightly to moderately carbonaceous, trace black coal flecks and detritus, trace micromica, trace pyrite, soft, non fissile.

1353 - 1363 meters

Massive Claystone (100%)

CLAYSTONE: medium brown to medium grey, very silty, trace very fine kaolinitic sandstone laminae, common black to brown carbonaceous flecks and fine detritus, trace micromica, soft, very dispersive, non fissile.

1363 - 1375 metres

Massive Claystone (100%) with minor laminated Sandstone (Trace).

CLAYSTONE: light green grey to light grey to medium brown, very silty, trace very fine quartz and altered feldspar grains in part, common brown to black carbonaceous flecks and fine detritus, trace micromica, trace pyrite, soft, non fissile.

SANDSTONE: light grey, silty to very fine, subangular to subrounded, moderately sorted, weak silica cement, abundant off white to light grey argillaceous and silt matrix, quartzose with abundant altered feldspar grains, common grey brown and green lithics, common very fine black carbonaceous detritus, friable, no visual porosity, no oil fluorescence.

1375 - 1391 metres

Sandstone (90%) with minor laminated Claystone (10%).

SANDSTONE: light to medium green grey, very fine to medium, dominantly fine to medium, subangular to subrounded, moderately sorted, weak silica cement, common to abundant white argillaceous matrix, quartzose with abundant white and grey green volcanogenic lithics, trace red brown and black lithics, trace fine black coaly detritus, trace brown and clear mica flakes, rare pyrite, friable, poor to fair visual porosity, poor inferred porosity, no oil fluorescence.

CLAYSTONE: light green grey to light grey to medium brown, very silty, trace very fine quartz and altered feldspar grains in part, common brown to black carbonaceous flecks and fine detritus, trace micromica, trace pyrite, soft, non fissile.

1391 - 1428 metres

Sandstone (70%) interbedded and laminated with Claystone (30%).

SANDSTONE: medium green grey, very fine to medium, occasional coarse grains in part, dominantly medium, subangular to subrounded, moderately sorted, weak silica and calcareous cements, common to abundant white argillaceous matrix, quartzose with abundant altered feldspar and grey green volcanogenic lithics, trace red brown and black lithics, trace fine black coaly detritus, trace brown and clear mica flakes, trace pyrite, friable, very poor to occasionally fair visual porosity, no oil fluorescence.

CLAYSTONE: light to medium grey to light to medium green grey to light to medium brown grey, very silty, trace very fine quartz and altered feldspar grains in part, common brown to black carbonaceous flecks and detritus, trace pyrite, trace micromica, soft to firm, non fissile.

1428 - 1464 metres

Sandstone (40%) interbedded and laminated with Claystone (60%).

SANDSTONE: light to medium green grey, very fine to medium, dominantly fine becoming very fine with depth, subangular to subrounded, moderately sorted, weak silica and calcareous cements, abundant white argillaceous matrix - generally matrix supported, quartzose with abundant altered feldspar and grey green volcanogenic lithics, trace red brown and black lithics, trace fine black coaly detritus, trace brown and clear mica flakes, trace pyrite, common crystalline calcite from fractures in part, friable, nil to poor visual porosity - in general decreasing with depth, no oil fluorescence.

CLAYSTONE: light to medium grey to medium brown grey to medium green grey, occasionally medium brown, very silty, common very fine quartz and altered feldspar grains in part, common brown to black carbonaceous flecks and detritus, abundant black coal detritus in part, trace pyrite, trace micromica, soft to firm, non fissile.

1464 - 1506 metres

Sandstone (100%) with minor laminated Claystone (trace) at top.

SANDSTONE: medium green grey, very fine to medium, dominantly fine at top becoming dominantly medium with depth, subangular to subrounded, moderately sorted, weak silica and calcareous cements, common to abundant white argillaceous matrix, quartzose with abundant altered feldspar and grey green volcanogenic lithics, trace red brown and black lithics, trace fine black coaly detritus, trace coarse brown and clear mica flakes, trace pyrite, moderately hard, poor visual porosity at top increasing to fair with depth, no oil fluorescence.

CLAYSTONE: light to medium grey, occasionally medium brown grey to medium green grey, very silty, common very fine quartz and altered feldspar grains in part, common brown to black carbonaceous flecks and detritus, trace pyrite, trace micromica, soft to firm, non fissile.

1506 - 1550 metres

Sandstone (70%) interbedded and laminated with Claystone (30%).

SANDSTONE: medium green grey, very fine to medium, dominantly medium, subangular to subrounded, moderately sorted, weak silica and calcareous cements, common to abundant white argillaceous matrix, quartzose with abundant altered feldspar and grey green volcanogenic lithics, trace red brown and black lithics, trace fine black coaly detritus, trace coarse brown and clear mica flakes, trace pyrite, moderately hard, poor visual porosity, no oil fluorescence.

CLAYSTONE: medium grey to medium brown grey, moderately silty, trace very fine quartz and altered feldspar sand grains in part, trace brown to black carbonaceous flecks and detritus, firm, non fissile.

3.8 Hydrocarbon Shows

No oil fluorescence was observed throughout the well.

No gas readings were recorded from the Surface to 614 metres.

From 614 to 776 metres the formation recorded a background gas of 0 to 0.1 units at the top increasing to 3 units at the base (100% C1), with no significant peaks or identifiable gas column.

From 614 to 776 metres gas readings ranged between 0 to a maximum of 3 units of total gas (100% C1) with no significant peaks or identifiable gas column.

From 776 to 808 metres gas readings ranged between 2 and 41 units (C1 100%), with the higher gas readings coming from the coalier intervals. No identifiable gas column within the sandstones was observed.

From 808 to 1353 metres gas readings ranged between 0.1 and 9 units (C1 100%, C2+ 0). No significant gas peaks were present and no identifiable gas column was observed.

From 1359 to 1375 metres the lithology consisted of predominantly claystone with minor tight sandstone laminae. During this interval the total gas rapidly increased from 4 units at the top to a maximum of 170 units towards the base. No reservoir quality sand was present through this interval. (C1 94%, C2 4%, C3 1%, C4 1%, C5 trace).

From 1375 to 1389 metres at 1375m the lithology changed to a fine grained kaolinitic sand, which became coarser and cleaner with depth to 1387m whereupon the sand began to clay out, finally entering a claystone at 1389m. This sand in this unit contained significant kaolin clay matrix, but with indeterminable permeability. Total gas readings ranged from 170 units to a peak of 3585 units. (C1 89.0%, C2 8.1%, C3 2.3%, C4 0.6%, C5 trace). No oil fluorescence was observed.

From 1389 to 1441 metres the interval 1389-1441m appeared to be gas saturated throughout with total gas readings in the clayier intervals ranging between 103 and 800 units and in the sandier intervals between 350 and 1250 units. No oil fluorescence was observed. Lithologically this interval comprised cyclical deposition from claystone rich sections with thin laminated tight and finely interbedded sandstones to sandstone rich sections containing thin interbeds of cleaner sandstone with fair visual porosity interspaced with thin beds of more matrix rich and cemented sandstones with poor visual porosity. A general fining down sequence was present in many of the sedimentary cycles with the sand/clay ratio and visual porosity decreasing with depth. The better porosity sandstones lie within the intervals 1394-1397m, 1402-1407m, 1415-1419m, 1422-1424m, 1426-1427m, 1429-1431m, 1433-1434m, 1436-1438m, 1440-1441m. No oil fluorescence was observed. (C1 95.1%, C2 3.6%, C3 1.1%, C4 0.2%, C5 0)

From 1441-1453m this unit consisted of a claystone with only minor tight very fine sandstone laminae. From 1453 to 1460m the lithology is a very fine to fine grained very tight sandstone, which showed no increase in gas readings above background probably due to the tight nature of the sandstone. Total gas ranged from 40 to 150 units, with no significant peaks. C1 94%, C2 4%, C3 1%, C4 trace, C5 trace. No oil fluorescence was observed.

From 1464 to 1501 metres the interval had total gas readings ranging between 121 and 1605 units (average 700 units). The sandstone appeared to be tighter and finer grained at the top with poor visual porosity. With depth the sandstone becomes dominantly medium grained with a corresponding decrease in matrix, with fair visual porosity. C1 95.5%, C2 3.4%, C3 0.9%, C4 0.2%, C5 0, no oil fluorescence was observed.

From 1501 to 1550 metres gas readings within this interval ranged between 45-175 units of total gas in the sandier intervals and between 30-45 units of total gas in the more clay rich intervals. No significant gas peaks were noted. C1 95.4%, C2 3.6%, C3 0.9%, C4 0.1%, C5 trace. No oil fluorescence was observed.

A Gas/Water contact for Wombat - 2 from mudlogging data is interpreted to be present at 1501 meters RKB.

3.9 Cores

1497 – 1506 CORE 1	Sandstone (100% with minor bands of Claystone clasts and minor Coal laminates. SANDSTONE: medium green grey, very fine to medium, occasional coarse grains in parts, dominantly medium, subangular to subrounded, moderately sorted, weak to moderate silican cement, rare patches of moderately strong calcite cement, common white argillaceous matrix, occasional bands with abundant medium grey claystone clasts to 150 mm diameter, quartzose with abundant dark grey green volcanogenic lithics, trace red brown and black volcanogenic lithics, trace black coaly detritus and occasional black coaly laminates, trace to occasionally common coarse brown mica flakes, friable, poor to rarely good visually porosity, dominantly fair visual porosity, no oil fluorescence or cut. CLAYSTONE CLASTS: medium grey, moderately silty in part, calcareous in parts, trace micromica, firm, non fissile. COAL LAMINATES: black, vitreous, conchoidal fracture, non argillaceous, hard, brittle.

4.0 DISCUSSION AND CONCLUSIONS

Wombat -2 proved to be a significant appraisal well for the following reasons:

1. It confirmed the significant amount of gas trapped in the upper Strzelecki Group reservoir with a gas column from 1373 to 1501 metres.

2. It tested the highest flow rate (480 mcfd) (from the lower sand unit) to date from the Strzelecki Group of the Gippsland Basin.

3. It extended the Wombat gas field at least 2 kilometers further to the SW.

5.0 COMPLETION

Wombat - 2 well was suspended for future production of the upper sands across the interval from 1373 to 1501 metres.