

# LAKES OIL N.L.

(A.C.N. 004247214)

## WOMBAT No.2 PEP 157

### DAILY GEOLOGICAL REPORT No. 1

Date: 30-03-2004

Depth: 18m

Progress: 18m

Days from Spud: 1

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 508mm at 15.65m

**0600 hrs Update:** Drill ahead at 100m.

#### Comments:

Spud Wombat No.2 at 2230hrs, 30th March, 2004. Drill 17.5" (444.5mm) hole.

Interval (mRT)	Hydrocarbon Show Summary	Gas
15-18	No Show	Nil

#### Lithological and Fluorescence Description

Interval (m)	Description
15-18	Sand and Gravels (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.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 2****Date: 31-03-2004****Depth:** 305m**Progress:**287m**Days from Spud:** 2

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 508mm at 15.65m

**0600 hrs Update:** Run 9.625" casing to 283m, circulate casing prior to cementing.**Comments:**

Drill 17.5" hole to 305m, prepare to run 13.385" casing.

Carbide test - hole in gauge.

Interval (mRT)	Hydrocarbon Show Summary	Gas
18-305	No Show	Nil

**Lithological and Fluorescence Description**

Interval (m)	Description
18-30	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	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.
108-133	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

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.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 3****Date: 01-04-2004****Depth:** 305m**Progress:**0m**Days from Spud:** 3

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Install BOP's**Comments:**

Cement 13.375" (340mm) casing at 283m. Nipple up BOP's.

<b>Interval (mRT)</b>	<b>Hydrocarbon Show Summary</b>	<b>Gas</b>
	No new formation drilled.	

**Lithological and Fluorescence Description**

<b>Interval (m)</b>	<b>Description</b>
	No new formation drilled.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 4****Date: 02-04-2004****Depth:** 305m**Progress:**0m**Days from Spud:** 4

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Drill out shoe and rathole below shoe.**Comments:**

Nipple up BOP's, pressure test BOP's.

Interval (mRT)	Hydrocarbon Show Summary	Gas
	No new formation drilled.	

**Lithological and Fluorescence Description**

Interval (m)	Description
	No new formation drilled.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 5****Date: 03-04-2004****Depth:** 545m**Progress:** 140m**Days from Spud:** 5

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Drill ahead 311mm hole at 577m.**Comments:**

Carbide test at 545m = 30 units.

<b>Interval (mRT)</b>	<b>Hydrocarbon Show Summary</b>	<b>Gas</b>
305-545	No Show	Nil

**Lithological and Fluorescence Description**

<b>Interval (m)</b>	<b>Description</b>
305-545	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.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 6****Date: 04-04-2004****Depth: 713m****Progress: 168m****Days from Spud: 6**

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:**

Drill ahead at 772m.

Background gas 3 units (C1 100%).

**Comments:**

Carbide at 666m = 12 units, hole in gauge.

Interval (mRT)	Hydrocarbon Show Summary	Gas
545-614	No Show	Nil
614-713	No Show	TG 0-0.2u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
545-614	Calcarene (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	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.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 7****Date: 05-04-2004****Depth:** 808m**Progress:**95m**Days from Spud:** 7

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Drill ahead at 850m. No shows, background gas 2-6 units (C1 100%).

**Comments:**

Wiper Trip at 779m, wiper trip gas 18 units (100% C1).

Interval (mRT)	Hydrocarbon Show Summary	Gas
713-776	No Show	TG 0-3u C1 100%
776-808	No Show	TG 2-41u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
713-776	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.
776-808	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.



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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 8****Date: 06-04-2004****Depth: 920m****Progress: 112m****Days from Spud: 8**

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Drill ahead at 927m.**Comments:**

POOH for new bit at 920m.

Interval (mRT)	Hydrocarbon Show Summary	Gas
808-920	No Show	TG 0.1-9u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
808-920	<p>SANDSTONE (65%) interbedded with Silty Claystone (35%) with minor Coal (Trace)</p> <p>SANDSTONE: light brown, very fine to very coarse, dominantly coarse, subangular to rounded, poorly sorted, weak silica and calcareous cements, trace to common medium brown argillaceous and silt matrix, quartzose with minor orange brown stain, trace green and grey black cherty lithics, trace coarse brown mica flakes, trace black coaly detritus, friable, good to very good inferred porosity, no oil fluorescence.</p> <p>SILTY CLAYSTONE: medium to dark brown grey, very finely arenaceous and kaolinitic in part, very carbonaceous, trace to common black coal detritus, soft, non fissile.</p>

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 9****Date: 07-04-2004****Depth:** 1058m**Progress:**138m**Days from Spud:** 9

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Drill ahead at 1088m. Background gas 2 units (100% C1) in interbedded sandstone/silty claystone with occasional coal interbeds.

**Comments:**

Correlation Wombat-2/Wombat-1, Wombat-2 appears to be 35m higher than Wombat-1. Correlatability - poor.

Interval (mRT)	Hydrocarbon Show Summary	Gas
920-1058	No Show	TG 0.1-7u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
920-1058	SANDSTONE (40%) interbedded with Silty Claystone (50%) 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.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 10****Date: 08-04-2004****Depth:** 1147m**Progress:**89m**Days from Spud:** 10

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** RIH with NB, prepare to drill ahead.**Comments:**

Wiper Trip at 1139m - wiper trip gas 3.7 units (C1 100%).

POOH due to low ROP at 1147m.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1058-1147	No Show	TG 0.5-5.3u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
1058-1111	SANDSTONE (60%) interbedded with Silty Claystone (30%) and Coal (10%) SANDSTONE: light grey, very fine to grit, dominantly coarse to very coarse, angular to subrounded, poorly sorted, weak to moderate silica cement, trace off white argillaceous matrix, clear to opaque quartz grains, trace green and black cherty lithics, trace coarse clear mica flakes, trace black coal detritus, friable, very good inferred porosity, no oil fluorescence. SILTY CLAYSTONE: off white dark brown, dominantly medium brown, very carbonaceous, common black coal detritus, trace micromica, soft, non fissile. COAL: black to occasionally dark brown, earthy to subvitreous lustre, blocky to subconchoidal fracture, very argillaceous in part, trace amber, hard, brittle.
1111-1133	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	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.



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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 11****Date: 09-04-2004****Depth:** 1223m**Progress:** 76m**Days from Spud:** 11

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** RIH with new bit.**Comments:**

Trip gas at 1147m = 8 units (C1 100%).

POOH at 1223m for new bit.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1147-1223	No Show	TG 0.3-3.6u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
1147-1216	SANDSTONE (70%) interbedded with Claystone (10%). SANDSTONE: light grey to light brown grey, very fine to grit, dominantly very coarse, angular to subrounded, poorly sorted, moderate silica cement, trace to common off white argillaceous matrix, clear to opaque quartz grains, trace green and black volcanogenic lithics, trace coarse clear mica flakes, trace black coal detritus, trace pyrite, friable, very good inferred porosity, no oil fluorescence. CLAYSTONE: off white to light brown, moderately silty, moderately carbonaceous, trace black coal detritus, trace micromica, soft, non fissile.
1216-1223	SANDSTONE (40%) interbedded with Claystone (60%). SANDSTONE: light brown grey, very fine to grit, dominantly coarse to very coarse, angular to subrounded, poorly sorted, moderate silica cement, common to abundant off white argillaceous matrix, clear to opaque quartz grains, trace green and black volcanogenic lithics, trace black coal detritus, trace pyrite, friable, good inferred porosity, no oil fluorescence. CLAYSTONE: off white to light brown, rarely medium brown, moderately silty, slightly to moderately carbonaceous, trace black coal detritus, trace micromica, soft, non fissile.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 12****Date: 10-04-2004****Depth: 1307m****Progress: 84m****Days from Spud: 12**

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Drill ahead at 1340m.**Comments:**

RIH, wait on rig power repairs, drill ahead.

Trip gas at 1223m lost due to rig power failure.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1223-1302	No Show	TG 0.3-8.5u C1 100% C2 trace

**Lithological and Fluorescence Description**

Interval (m)	Description
1223-1302	<p>SANDSTONE (60%) interbedded with Claystone (40%).</p> <p>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.</p> <p>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.</p>

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 13****Date: 11-04-2004****Depth:** 1349m**Progress:**42m**Days from Spud:** 13

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** RIH to drill ahead.**Comments:**

Drill to 1349m, twist off drill string. POOH, RIH with overshot, recover fish, POOH, change BHA.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1302-1345	No Show	TG 0.7-1.5u C1 100%

**Lithological and Fluorescence Description**

Interval (m)	Description
1302-1345	<p>SANDSTONE (80%) interbedded with Claystone (20%).</p> <p>SANDSTONE: light grey, very fine to pebble, dominantly very coarse, angular to subrounded, poorly sorted, moderate silica cement, trace to 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.</p> <p>CLAYSTONE: light to medium brown, moderately to very silty, slightly to moderately carbonaceous, trace black coal flecks and detritus, trace micromica, trace pyrite, soft, non fissile.</p>

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 14****Date: 12-04-2004****Depth:** 1363m**Progress:** 14m**Days from Spud:** 14

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 340mm at 283m

**0600 hrs Update:** Run 9.625" (244mm).**Comments:**

Drill to 1363m, POOH to run 9.625" (244mm) casing.

Background gas rose sharply across the 10m section penetrated from 4 units at the top to a maximum of 205 units. Section consisted of claystone with no appreciable sand development.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1345-1353	No Show	TG 0.7-1.5u C1 100% C2+ 0
1353-1363	No Show	TG 4-205u C1 92.9% C2 4.1% C3 1.0% C4 1.3% C5 0.7%

**Lithological and Fluorescence Description**

Interval (m)	Description
1345-1353	<p>Sandstone (80%) interbedded with Claystone (20%).</p> <p>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.</p> <p>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.</p>



1353-1363

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.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 15****Date: 13-04-2004****Depth:** 1363m**Progress:**0m**Days from Spud:** 15

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Nipple up BOP's.**Comments:**

Run 9.625" (244mm) casing to 1359m, nipple up BOP's.

Interval (mRT)	Hydrocarbon Show Summary	Gas
	No new formation drilled.	

**Lithological and Fluorescence Description**

Interval (m)	Description
	No new formation drilled.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 16****Date: 14-04-2004****Depth:** 1363m**Progress:**0m**Days from Spud:** 16

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Condition mud prior to drilling ahead with 8.5" (216mm) hole.**Comments:**

Nipple up and pressure test BOP's, make up and RIH 216mm (8.5") drilling assembly to drill out shoe track and rathole.

Interval (mRT)	Hydrocarbon Show Summary	Gas
	No new formation drilled.	

**Lithological and Fluorescence Description**

Interval (m)	Description
	No new formation drilled.

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 17****Date: 15-04-2004****Depth:** 1391m**Progress:**28m**Days from Spud:** 17

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Run 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) (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.

**Comments:**

Formation Integrity Test at 1366m to 11.4 ppg mw eq, no leak off. Drill to 1391m, circulate, weight up mud to 10.2 ppg, POOH for DST No.1.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1363-1375	No Show	TG 170u C1 94% C2 4% C3 1% C4 1% C5 Trace
1375-1391	<p><b>GAS SHOW</b></p> <p>The section from 1375 to 1389m appears to be gas saturated. Upon entering the Golden Beach Formation at 1353m, the gas rose rapidly from a background of 3 units to 200 units in the silty claystone seal down to 1375m. 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 unit although containing significant kaolin clay matrix, may possess significant permeability for economic gas production flow rates - however accurate assessment of this from the cuttings samples in this case is not possible due to the matrix washing from the cuttings. Of interest is the significant formation pressure increase encountered whilst approaching this sand unit - suggestive of the presence of a gas column in the order of 200 to 300 meters. Further to note is the presence of significant concentrations of heavier hydrocarbons, suggestive of the possible presence of an associated oil leg.</p>	TG 3585u C1 73% C2 16% C3 7% C4 3% C5 1%

<b>Lithological and Fluorescence Description</b>	
<b>Interval (m)</b>	<b>Description</b>
1363-1375	<p>Massive Claystone (100%) with minor laminated Sandstone (Trace)..</p> <p>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.</p> <p>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.</p>
1375-1391	<p>Sandstone (90%) with minor laminated Claystone (10%).</p> <p>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.</p> <p>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.</p>

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**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 18****Date: 16-04-2004****Depth: 1391m****Progress:0m****Days from Spud: 18**

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** RIH for re-run of DST No.1.**Comments:**

Run 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.

RIH for cleanout trip prior to re-running DST No.1, trip gas 2450 units, (C1 94.7%, C2 3.6%, C3 1.0%, C4 0.5%, C5 0.2%).

Interval (mRT)	Hydrocarbon Show Summary	Gas
	No new formation drilled.	

**Lithological and Fluorescence Description**

Interval (m)	Description
	No new formation drilled.

**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 19****Date: 17-04-2004****Depth:** 1391m**Progress:**0m**Days from Spud:** 19

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Drill ahead at 1410m. Note: section appears to be gas saturated with total gas readings ranging between 400 and 800 units (C1 89.0%, C2 8.1%, C3 2.3%, C4 0.6%, C5 trace). Sequence consists of interbedded and laminated lithic sandstone (90%) with claystone (10%), with the sandstone appearing to have poor to occasionally fair visual porosity, no oil fluorescence.

**Comments:**

Run 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 channeled from LaTrobe Formation. POOH with test tools. RIH with electric logs. Run No.1 GR-Cal 1391-1359, GR to surface. Rig down logging tools. Perform leak off test to 300 PSI with no leak off. RIH with 8.5" drilling assembly to drill ahead.

Interval (mRT)	Hydrocarbon Show Summary	Gas
	No new formation drilled.	

**Lithological and Fluorescence Description**

Interval (m)	Description
	No new formation drilled.

**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 20****Date: 18-04-2004****Depth:** 1428m**Progress:**37m**Days from Spud:** 20

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** POOH with DST No.2.**Comments:**

Run 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. Gas analysis C1 92.2%, C2 5.1%, C3 1.8%, C4 0.7%, C5 0.2%.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1391-1428	<p><b>GAS SHOW</b></p> <p>The interval 1391-1428m appears to be gas saturated throughout with total gas readings in the clayier intervals ranging between 288 and 800 units and in the sandier intervals between 800 and 1250 units. No oil fluorescence was observed. Lithologically this interval appears to comprise 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. The better porosity sandstones lie within the intervals 1394-1397m, 1402-1407m, 1415-1419m, 1422-1424m, 1426-1427m (net 15m). Possibility exists for economic gas production rates from these intervals.</p>	<p>TG 1250u  C1 89.0%  C2 8.1%  C3 2.3%  C4 0.6%  C5 Trace</p>



### Lithological and Fluorescence Description

Interval (m)	Description
1391-1428	<p>Sandstone (70%) interbedded and laminated with Claystone (30%).</p> <p>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.</p> <p>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.</p>

**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 21****Date: 19-04-2004****Depth:** 1464m**Progress:**36m**Days from Spud:** 21

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Drill ahead at 1481m.**Comments:**

Trip Gas at 1428m = 2500 units.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1428-1441	<p><b>GAS SHOW</b></p> <p>The interval 1428-1464m appears to be gas saturated throughout with total gas readings in the clayier intervals ranging between 103 and 350 units and in the sandier intervals between 350 to 962 units. No oil fluorescence was observed. Lithologically this interval appears to comprise cyclical deposition from claystone rich sections with laminated tight and finely interbedded sandstones to sandier intervals with minor laminated claystones. A general fining down sequence is present with the sand/clay ratio decreasing with depth, and the quality of the sandstones decreasing with depth. Visual porosity in the sandstone range from poor in the upper portions to nil in the basal portion. The better sandstones present lie within the intervals 1429-1431m, 1433-1434m, 1436-1438m, 1440-1441m, (net 6m). Although some gas flow could be expected on test, estimated flow rates are low. Evidence of calcite infilled fracturing is present around 1437m. No open fractures could be observed whilst drilling, however this section should be examined more closely on electric logs to see if any open fractures do exist.</p>	<p>TG 962u  C1 95.1%  C2 3.6%  C3 1.1%  C4 0.2%  C5 0</p>
1441-1464	<p><b>No Show</b></p> <p>From 1441-1453m this unit consists 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, but showed no increase in gas readings above background probably due to the tight nature of the sandstone.</p>	<p>TG 150u  C1 94%  C2 4%  C3 1%  C4 trace  C5 trace</p>

### Lithological and Fluorescence Description

Interval (m)	Description
1428-1464	<p>Sandstone (40%) interbedded and laminated with Claystone (60%).</p> <p>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.</p> <p>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.</p>

**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 22****Date: 20-04-2004****Depth:** 1497m**Progress:**33m**Days from Spud:** 22

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Circulate prior to POOH with DST No.3.**Comments:**

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).

Gas analysis: C1 94.5%, C2 3.7%, C3 1.2%, C4 0.5%, C5 0.1%.

Interval (mRT)	Hydrocarbon Show Summary	Gas
1464-1497	<p><b>GAS SHOW</b></p> <p>The interval 1464-1497m appears to be gas saturated throughout with total gas readings ranging between 121 and 1605 units (average 700 units). The sandstone appears 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. Net estimated pay of 22m. Economic gas production rates and volume appear possible from this interval.</p>	<p>TG 1605u</p> <p>C1 95.5%</p> <p>C2 3.4%</p> <p>C3 0.9%</p> <p>C4 0.2%</p> <p>C5 0</p>

**Lithological and Fluorescence Description**

Interval (m)	Description
1464-1497	<p>Sandstone (100%) with minor laminated Claystone (trace) at top.</p> <p><b>SANDSTONE:</b> 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.</p> <p><b>CLAYSTONE:</b> 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.</p>

**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 23****Date: 21-04-2004****Depth:** 1506m**Progress:**9m**Days from Spud:** 23

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** Recover Core No.1 (Cut 1497-1506m (9m)).

**Comments:**  
 Cut Core No.1

Interval (mRT)	Hydrocarbon Show Summary	Gas
1497-1506	Core No.1 Background gas whilst coring gradually dropped from 1000 units plus to 150 units, however this is non indicative of formation due to contamination of gas after DST No.3. Best interpretation is that the cored interval is gas saturated. Cuttings whilst coring indicate the cored section to be predominantly a sandstone similar to that tested in DST No.3. Gas analysis: C1 94.7%, C2 3.7%, C3 1.2%, C4 0.4%, C5 Trace	

**Lithological and Fluorescence Description**

Interval (m)	Description
1497-1506	Core No.1.

**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 24****Date: 22-04-2004****Depth: 1550m****Progress:44m****Days from Spud: 24**

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:** RIH to log.**Comments:**

Recover Core No.1 (Cut 1497-1506m (9m), recovered 4.84m (54%). RIH and drill ahead to 1550m (T.D.) reached at 2200 hrs 22nd April, 2004. POOH to log.

NOTE: The gas/water contact appears to be at 1501 meters, thus giving a continuous gas column for Wombat No.2 from 1375m to 1501m (Gross gas column of 126m).

Interval (mRT)	Hydrocarbon Show Summary	Gas
1506-1550 T.D.	NO SHOW 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 clayier intervals. This magnitude of gas reading relative to mud overbalance, drill rate and porosity etc would indicate water saturation through this interval. The Gas/Water contact for Wombat No.2 from mudlogging data is interpreted to be at 1501 meters RKB.	TG 175u C1 95.4% C2 3.6% C3 0.9% C4 0.1% C5 trace

**Lithological and Fluorescence Description**

Interval (m)	Description
1497-1506 CORE No.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 silica cement, rare patches of moderately strong calcite cement, common white argillaceous matrix, occasional bands with abundant medium grey claystone clasts to 150mm 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 visual 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.

1506-1550 T.D.	<p>Sandstone (70%) interbedded and laminated with Claystone (30%).</p> <p>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.</p> <p>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.</p>
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**LAKES OIL N.L.**

(A.C.N. 004247214)

**WOMBAT No.2 PEP 157****DAILY GEOLOGICAL REPORT No. 25****Date: 23-04-2004****Depth:** 1550m**Progress:**0m**Days from Spud:** 25

**Rig:** Hunt Rig No.2  
**Drilling Rep:** Lou DeVattimo  
**Geologist:** David Horner

**GL(AHD):** 20.0m  
**RT: (datum)** 23.65m  
**Last Casing:** 244mm at 1359m

**0600 hrs Update:****Comments:**

Run Log: Run No.1 MRS-DLS-CSS-GR-SP-CAL,PDS-CNS-GR-CAL. Rig down loggers, RIH for cleanout trip prior to running 7" casing.

Interval (mRT)	Hydrocarbon Show Summary	Gas
	No new formation drilled	

**Lithological and Fluorescence Description**

Interval (m)	Description
	No new formation drilled.