LAKES OIL N.L.

(A.B.N. 62 004 247 214)

BUNGA CREEK-2

STRATIGRAPHIC COREHOLE

PEP 155 Vic.

WELL COMPLETION REPORT

by
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LAKES OIL N.L.
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1.0 SUMMARY

Bunga Creek-2 stratigraphic corehole was designed as a test of the Colquhoun Greensand and Colquhoun Gravel reservoirs at the eastern end of the Lakes Entrance 'field' area. The disappointing results of the Bunga Creek-1 well had raised doubt as to the validity of the interpreted gravity low on the July 2002 Lakes Entrance Falcon airborne gravity/magnetic/scintillometer/topographic survey. Shallow granite basement had been encountered at 364.5 m, indicating the well was located on a basement high, with no Colquhoun Gravel present.

Although Bunga Creek-2 was located within the general limits of the same gravity low, the well was essentially located as a step out from the original field discovery well, Lake Bunga-1, drilled in 1924.

The well spudded on the 26th of February 2003 and a 7" (178 mm) conductor was set at 12.4 m. The well was rotary drilled to 144 m. RT. and 5" (127 mm) casing was then set at a depth of 141 m. RT. After installing the BOP the well drilled ahead in 98 mm hole. Numerous delays resulting from failure of rotating head seals meant that the coring point (318m) was not reached until 13 March 2003.

Coring commenced within the Lakes Entrance Fm at 318 m on March 14th and continued to total depth of 351.2 m, basement metasediments having been encountered at 348.06 m.

Although glauconitic siltstone and silty sandstones were encountered within the Lakes Entrance Formation, once again no significant oil shows were encountered, and no Colquhoun Gravel was present, although a thin (26 cm) band of strongly cemented conglomerate was found to overlay basement.

Subsequently caliper, gamma ray-density and resistivity logs were run from TD to the casing shoe at 141 m, with the gamma ray log continuing to surface. The well was then plugged and abandoned on 20 March 2003.

2.0 WELL HISTORY

2.1 GENERAL DATA

Well Name:	Bunga Creek-2
Map Reference:	Cunninghame Topographic 8522-3-4 Scale 1:25,000
Location:	AMG 66 Coordinates 591198 E 5810297 N Latitude: 37° 51' 0.4" South Longitude: 148° 2' 11.6" East
Elevations:	GL 43.890 RT 44.54
Petroleum Tenement:	PEP 155
Operator:	Lakes Oil NL (for Petro Tech Pty Ltd) ACN 004 247 214 Level 11, 500 Collins Street Melbourne 3000
Other Participants:	None
Date Drilling Commenced:	26th February 2003.
Date Drilling Completed:	17th March, 2003
Date Rig Released:	20th March, 2003
Drilling Time to T.D.:	20 days (Rig operated daylight hours only)
Total Depth:	351.2 m
Status:	Plugged and Abandoned

2.2 RIG DATA

Drilling Contractor	Drilltech Pty Ltd Drilling Depot Rd Morwell Victoria 3168
Rig	Bournedrill THD25VP.
Rig Carrier	Truck Mounted.
Weight Indicator	Hydraulic Pressure.
Power	Truck Engine.
Rotary	Top Drive.
Pumps	Duplex 5"X 6" double action.
Tubulars	PQ pipe
Fishing Tools	None on Site.
Handling Tools	Hydraulic 48" Rigid wrench.
Stabilizer	Not applicable.
Spare Parts	As reasonably required for carrying out the well programme.
Personnel	Driller plus 2 crew.

Note: Rig Operated Daylight Hours Only.

2.3 DRILLING DATA

The following is the daily operations summary for Bunga Creek -2. It has been compiled from the daily drilling reports. Onsite drilling supervision and wellsite geology services for Lakes Oil N.L. was provided by J. Mulready. Gas detection equipment was supervised by Mr. D. Sisely.

DATE	DRILLING OPERATIONS
25.2.03	Rig arrived on site, rigging up commenced.
26.2.03	24 hrs to 6 p.m. 26.2.03 Spudded well 2.20 p.m. Drilled 9.7/8" (251 mm) hole to 12.4 metres, ran & cemented 7" (178 mm) conductor pipe at 12.4 m..
27.2.03	24 hrs to 6 p.m. 27.2.03 Drilled 6.1/8" (156 mm) hole to 132 metres.
28.2.03	24 hrs to 6 p.m. 28.2.03 Drilled to 144 m. Ran & cemented 5" (127 mm) casing at 141 m RT
01.03.03	24 hrs to 6 p.m. 1.3.03 Topped up cement to surface. Installed BOP. Wait on cement.
02.03.03	24 hrs to 6p.m. 2.3.03 Repaired hydraulic slips, RIH tagged top of cement 8 m off bottom. Drilled out of casing shoe, pressure tested BOP, drilled to 168 m.
03.03.03	24 hrs to 6p.m. 3.3.03 Nil progress. Rig shut down awaiting parts for repair of hydraulic slips. Emptied mud pit ready to mix new KCl polymer mud.
04.03.03	24 hrs to 6p.m. 4.3.03 Repaired hydraulic slips. Mixed mud. Drilled from 168 to 210 m. Top drive swivel seal failed - rig shut down awaiting repairs.
05.03.03	24 hrs to 6 p.m. 5.3.03 Rig shut down awaiting repairs.
06.03.03	24 hrs to 6p.m. 6.3.03 Repairs completed. Drilled to 222 m. Top-drive seal failed again. Rig shut down awaiting repairs.
07.03.03	24 hrs to 6p.m. 7.3.03 Repairs completed. Drilled to 246 m. Top-drive seal failed. Replaced. Failed again.
08.03.03	24 hrs to 6p.m. 8.3.03 Repairs completed. Drilled to 270 m. Top-drive seal failed. Wait on repairs.
09.03.03	24 hrs to 6p.m. 9.3.03 Repairs completed. Drilled to 282 m. Top-drive seal failed. Wait on repairs.
10.03.03	24 hrs to 6p.m. 10.3.03 Repairs completed. Drilled to 282 m. Top-drive seal failed. Wait on repairs.

11.03.03	24 hrs to 6p.m. 11.3.03 Wait on repairs.
12.03.03	24 hrs to 6 p.m. 12.3.03 Repaired rig, RIH, pipe parted. Screwed into fish. POH replaced 2 pipes. RIH drilled to 294 m. POH to casing shoe.
13.3.03	24 hrs to 6 p.m. 13.3.03 RIH. Drilled to 318 m. POH to change bit and clean out drillpipe prior to coring.
14.03.03	24 hrs to 6 p.m. 14.3.03 Mixed mud. RIH. Core from 318 m. to 331 m. (13 m)
15.3.03	24 hrs to 6p.m. 15.3.03 Cored from 331 m to 345 m (14m).
16.03.03	24 hrs to 6 p.m. 16.3.03 Cored from 331 m into basement metasediments at 348.2.
17.03.03	24 hrs to 6 p.m. 17.3.03 Cut basement core from 348.2 m to 351.2 m (3 m). POH.
18.03.03	24 hrs to 6 p.m. 18.3.03 Ran caliper, gamma density and resistivity logs from TD to casing shoe, then gamma to surface.
19.03.03	24 hrs to 6 p.m. 19.3.03 Wait on crew.
20.03.03	Plugged and abandoned well. Plug No.1 from TD to 54m RT Plug No.2 - 3 metre surface plug. Released rig.

Hole Sizes & Depths:

9-7/8" (251 mm)	Surface to 12.4 m RT
6.1/8" (156 m	12.4 m RT to 144 m RT
~4" (98 mm)	144 to TD
Core size HQ	318m - TD

Casing & Cementing:

Surface

Size	7 " (178 mm)
Weight	23 lb/ft 33.7 kg/m
Grade	K55
Shoe setting depth	141m

Liner

Size	5" (127 mm)
Weight	16 kg/m
Shoe setting depth	59.4 m

Deviation Surveys:

None taken

Drilling Fluid:

Spud-144 m	Freshwater gel
144m – TD	KCl/Polymer/PHPA

Water Supply:

Water was trucked from Lakes Entrance

Plugging & Cementing:

Plug 1	54 to TD
Plug 2	Surface

2.4 LOGGING AND TESTING

Wellsite Geologist: J.Mulready

Mudlogging: Hot wire hydrocarbon detection, depth & drill rate monitoring were provided by D. Sisely.

Ditch Cutting Samples: Ditch cutting samples were collected at 3 m intervals from surface to 318 m. at which stage coring commenced.

One set, consisting of approx. 500 gm of unwashed dried cuttings in a calico bag, was submitted to the DNRE.

One set of washed cuttings was collected in Samplex trays for retention by the Operator.

Coring: Continuous core was taken between 318 m RT and 351.2 m RT (TD).

Sidewall cores: None taken.

Testing: No testing was undertaken.

Wireline Logs: Caliper, gamma density and resistivity logs were run from TD to casing shoe, then gamma to surface.

Velocity Survey: No velocity survey was undertaken.

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.

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 portion of the basin 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 155

Lakes Oil N.L. acquired the PEP 135 permit in August 1997. The permit overlies the onshore portion of the Lakes Entrance (Northern) Platform of the Gippsland Basin (see below). It includes the Lakes Entrance oil field, discovered in 1924, which produced approximately 10,000 bbls of biodegraded oil (Approx 14^0 API) before production ceased in 1956. The reservoir was the Greensand Member of the Oligocene age Lakes Entrance Fm. The Lakes Entrance field has remained the focus of Lakes' exploration effort since taking out the permit.

In 1997 Lakes drilled two wells within the field area :-

Petro Tech-1, located in the central portion of the field near the Lakes Entrance oil shaft, and Hunters Lane-1 located in the western portion of the field. Bailing operations at Hunters Lane-1 produced approximately 1700 litres of oil/oil emulsion before the well was plugged and abandoned.

In July 2002 a Falcon airborne survey was acquired over the Lakes Entrance field area, measuring gravity gradient, magnetics, radiometrics and topograhy. Interpretation of this survey data was used to locate the Bunga-1 well.

Bunga Creek-1 and Bunga Creek-2 marked a return to the task of evaluating the economic potential of the field, this time concentrating at its eastern end.

3.3 EXPLORATION HISTORY

Hydrocarbon exploration commenced in the onshore region of the basin in the 1920s. In 1924 the Lake Bunga-1 well encountered traces of oil, starting a drilling run that ultimately resulted in the drilling of over 60 wells in the Lakes Entrance vicinity. The oil accumulation is found in a stratigraphic trap within a basal glauconitic sand member of the Oligocene age Lakes Entrance Formation. The field produced a total of 10,000 bbls of approximately 14° API gravity oil before production ceased in 1956.

'Modern' petroleum exploration in the permit commenced in the early 1960's and continued into the early 1970's, 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 & 3, 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 Victoria 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 section contained excellent reservoir rock, no significant shows were recorded within this section.

Recently, Lakes Oil has drilled eight 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; and Baudin-1 and Investigator-1, both of which targeted Lower Latrobe Formation sands, were unsuccessful, probably due to lack of seal. Within PEP157 the North Seaspray-3, Trifon-1 and Gangell-1 wells were drilled between 2000 and 2001, all targeting Strzelecki Formation sands and producing gas to surface.

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. It is characterised by a deep central basin, flanked by northern and southern terraces. In the onshore area Late Cretaceous movements were accompanied by volcanism. 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:

(A) <u>Lakes Entrance Platform (Northern Platform):</u> 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.

(D) Baragwanath Anticline: This is the eastern extension of the outcropping Balook High. It is an Early Cretaceous block, which was elevated during Late Miocene time as a result of 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) 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

Bunga Creek-2 stratigraphic corehole was designed as a test of the Colquhoun Greensand and Colquhoun Gravel reservoirs at the eastern end of the Lakes Entrance 'field' area. The validity of an interpreted gravity low on the July 2002 Lakes Entrance Falcon airborne gravity/magnetic/scintillometer/topographic survey had been discredited as a result of the basement high encountered at Bunga Creek-1.

Although Bunga Creek-2 was located within the general limits of the same gravity low, the well was essentially located as a step out from the original field discovery well, Lake Bunga-1, drilled in 1924.

In the event no Colquhoun Gravels were intersected.

3.7 STRATIGRAPHIC PROGNOSIS

TABLE I

FORMATION	PROGNOSED m RT	ACTUAL m RT	ACTUAL MSS	DIFFERENCE m
Jemmy's Point	Surface	Surface	+61	0
Tambo River Fm	30	18 m	+33	-22
Gippsland Limestone	70	60	+6	-10
Lakes Entrance Fm	260	266	-239	+6
Colquhoun Greensand	380	303	-281	-77
Colquhoun Gravel	405	Not present		Not present
Basement Metamorphics	420	348.06	-304	-72

3.8 STRATIGRAPHY

TABLE II

AGE	FORMATION	DEPTH RT m	ELEVATION m	THICKNESS m
Miocene Oligocene	Jemmy's Point Fm	Surface	+44	18
Miocene Oligocene	Tambo River Fm	18	+26	42
Miocene Oligocene	Gippsland Limestone	60	-16	206
Miocene Oligocene	Lakes Entrance Fm	266	-222	82
Miocene Oligocene	(Colquhoun Greensand Member)	(303)	-259	(45)
Devonian	Basement Metasediments	348.06	-305	
	Total Depth	351.2	-307	

JEMMY'S POINT FM (Surface to 18 m)
Sand: buff to light brn, consisting of coarse to very coarse grained occasionally pebbly, subrounded to rounded clear, brown, white & rosy & iron stained quartz grains.
Interbedded towards base with
Clay: light brown, soft, adhesive, very silty.

TAMBO RIVER FM (18m to 60 m)
Interbedded
Sandstone: light brown, consisting of very fine to fine grained rounded quartz in a calcareous matrix. No shows.
Limestone: light brown to white consisting of unconsolidated coarse to very coarse coral angular shell fragments, including bryozoa, gasteropods, lamellibranchs, & undifferentiated calcite. Dull yellow mineral fluorescence, no cut.
Marl: grey, soft, silty.
Coal: Thin bed at around 44 m. Black, soft.

GIPPSLAND LIMESTONE (60m to 266 m)
60m to 183 m
Limestone: light grey to cream, consisting of unconsolidated coarse to very coarse coral and shell fragments, commonly also medium grained over middle and lower portion of section. Shells include bryozoa, gasteropods, lamellibranchs, echinoid spines & undifferentiated calcite. Dull yellow mineral fluorescence.

183-266 m
Limestone: light grey to cream, consisiting of predominantly fine to medium grained coral and shell fragments, including bryozoa, gasteropods, lamellibranchs, echinoid spines & undifferentiated calcite. Dull yellow mineral fluorescence.
Occasional interbeds of
Marl: grey green, soft, dispersive, probably partially dispersing into the mud system.
Sandstone: from 246 m.grey green, very fine grained, well sorted, subrounded in an argillaceoues calcareous matrix. Tight, no shows. Also minor
Siltstone: grey green, soft, very argillaceous,calcareous, grades to marl.

LAKE ENTRANCE FORMATION (266-303)
Sandstone/Siltstone: grey green, brown, very fine grained, silty, subrounded, micaceous, calcareous, very argillaceous, slightly glauconitic, soft, tight grades to sandy calcareous siltstone. Tight, no shows.
Also very minor
Limestone: consisting of light grey, clear and brown shell fragments with occasional foraminifera.
Traces of pyrite, and black glauconite? pellets @ 291-297 m

COLQUHOUN GREENSAND MEMBER
303-346.3
Sandstone: grey brown, massive, soft, very fine grained, very silty, well sorted, consisting of quartz, fine mica, glauconite and occasional black carbonaceous specks in a soft, argillaceous, calcareous matrix. Occasional to abundant mollusc fossils throughout. Strong gold mineral fluorescence from shells. No cut.

346.3-348 .06
Sandstone: grey green, brown, indurated, consisting of rounded Fe stained quartz in a hard, calcareous argillaceous matrix. Numerous shell fragments. Tight No shows.
Limestone: as thin interbeds up to 24 cm. Grey black, hard, sandy with crystalline calcerous cement, glauconitic
Conclomerate: at base of section. Consists of metamorhic pebbles (> core diameter in part) generally sub-parallel to flat bedding. Matrix consists of indurated sandstone
As in previous sub-unit

METAMORPHIC BASEMENT (348.06 ->)
Slate and Quartzite

Refer Appendix I.

3.9 HYDROCARBON SHOWS

Only traces of methane were observed throughout the drilling of Bunga Creek-2 (refer Gas log & Strip Log Enclosure 2).

Strong gold mineral fluorescence was associated with mollusc fragments within the Greensand Member, but no cut was associated with this.

4.0 DISCUSSION & CONCLUSIONS

The Lakes Entrance oilfield has no seismic coverage and well control is limited because of the sparse and in some cases dubious data available for wells pre 1950.

The Lakes Entrance oil shaft was logged in detail, and there are three recent vintage wells in the field, viz. Woodside Lakes Entrance-1 (1966), Lakes Oil Petro Tech-1 (1997) and Lakes Oil Hunters Lane -1 (1997).

After the drilling of the latter two wells it was concluded that:

(a) the Colquhoun Greensand had limited reservoir quality, and was effectively acting as a thief zone for oil migrating up the basement unconformity.

(b) the underlying Colquhoun Gravel might offer better reservoir potential if it could be intersected within the oil window.

The Falcon airborne gravity/magnetic/scintillometer & topographic survey was flown in July 2002, with the intent of identifying depocentres within the field, (gravity lows), in the hope that they would be asociated with well developed sections of the Colquhoun Gravel.

In the event the gravity interpretation proved to be flawed, with granodiorite basement being intersected approximately 40 m high to prognosis at 365.4 m (304 m BSL) at Bunga Creek-1, and metamorhic basement even higher in Bunga Creek-2 at 348 m (307 m BSL).

No Colquhoun gravels were intersected. This implies the presence of a fault, downthrown to the south, between Bunga Creek nos 1 & 2 and Lake Bunga-1 to the south.

5.0 COMPLETION

Bunga Creek-2 was plugged and abandoned in accordance with DNRE and Southern Rural Water requirements on 25 November 2002.