Bunga Creek-1
Well Completion Report
(W1372)

LAKES OIL N.L.

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

BUNGA CREEK-1

STRATIGRAPHIC COREHOLE

PEP 155 Vic.

WELL COMPLETION REPORT

by
J.N. Mulready

July 2003

LAKES OIL NL
Level 11
500 Collins Street
Melbourne 3000

913649 002

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Bunga Creek-1
Location Map

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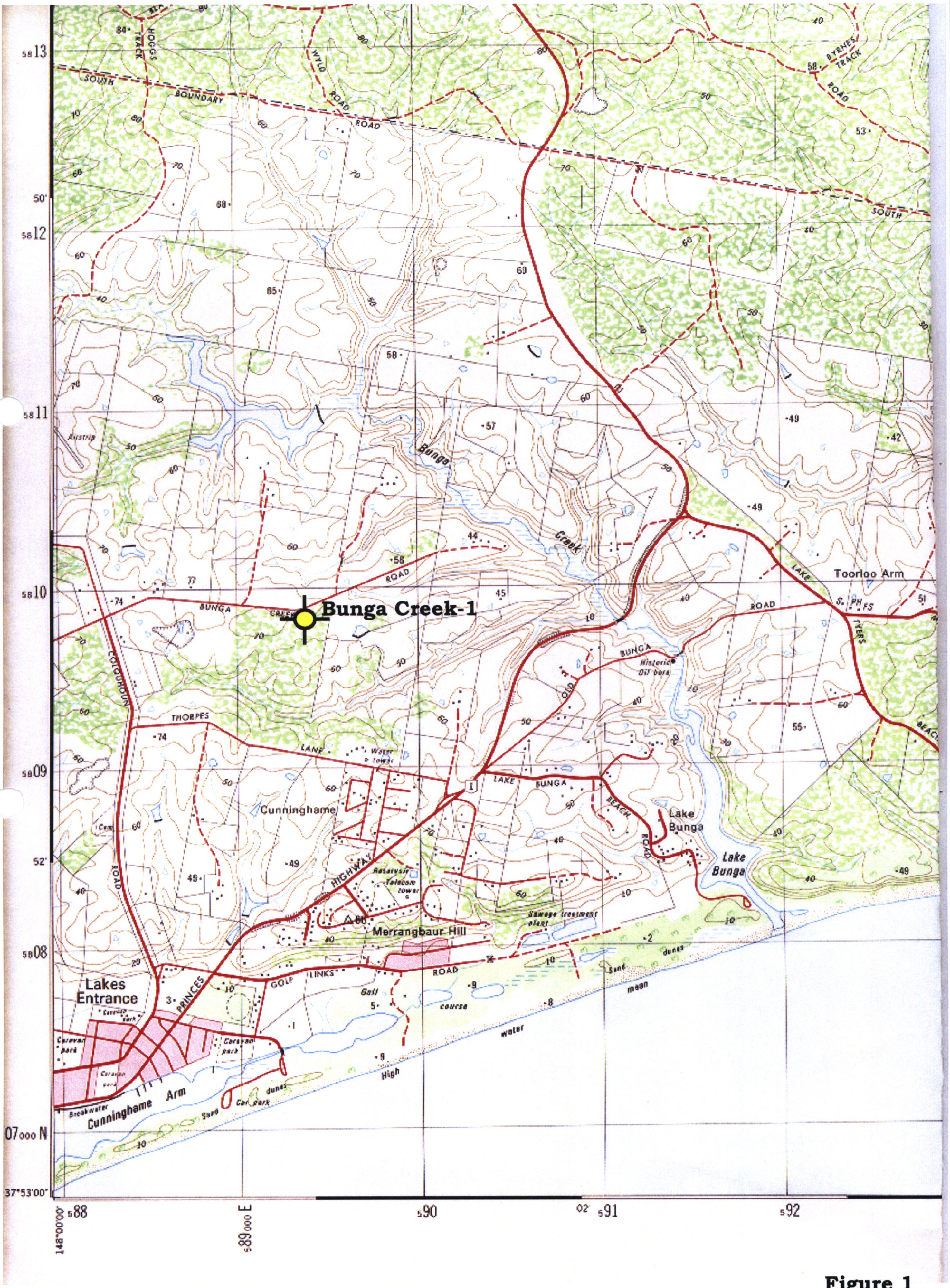

Figure 1

1.0 SUMMARY

Bunga Creek-1 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 location was also designed to test the validity of an interpreted gravity low on the July 2002 Lakes Entrance Falcon airborne gravity/magnetic/scintillometer/topographic survey. It was hoped that this low might indicate the presence of a significant Colquhoun Gravel section below the Greensand, with the potential to host oil in a better quality reservoir than the Greensand. In the event this proved not to be the case.

The well spudded on the 7 November 2002, and was rotary drilled to 59.4 m. RT. 7 inch (178 mm) casing was then set at 57 m. RT, with a 4.5 inch (114mm) liner subsequently set at 59.4 m. RT. After installing the BOP the well drilled ahead in 98 mm hole to a depth of 155m RT, but leakage problems around the casing forced a temporary cessation of drilling whilst the casing was re-cemented and the BOP reinstalled.

The well was then deepened to 342 m. RT, at which stage coring commenced. Coring continued to a total depth of 364.5 m., having encountered granodiorite basement at 364.4 m RT.

Although slightly glauconitic silty sandstones were encountered within the Lakes Entrance Formation, no significant oil shows were encountered, and no Colquhoun Gravel was present.

After running gamma ray log from 282 m to surface (the well had bridged off at this depth), the well was plugged and abandoned on 25 November 2002.

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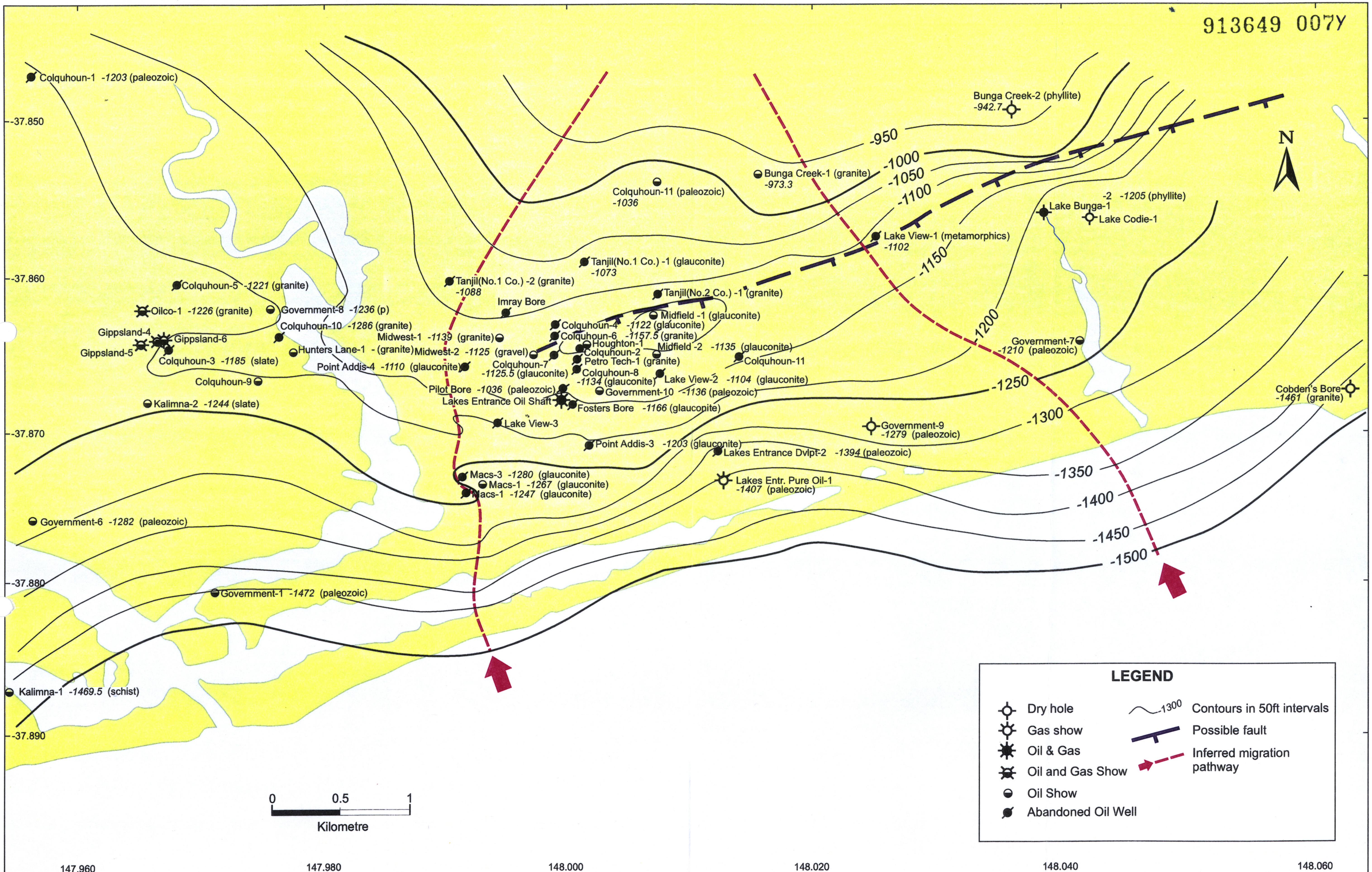

LAKES OIL N.L.

Sub Sea Depth Map Basement - Lakes Entrance Oil Field

Author: R. Meaney
Date: June 2003

FIGURE 2

2.0 WELL HISTORY

2.1 GENERAL DATA

Well Name:	Bunga Creek-1
Map Reference:	Cunninghame Topographic 8522-3-4 Scale 1:25,000
Location:	AMG 66 Coordinates 589381 E 5809890 N Latitude: 37° 51' 15.1" South Longitude: 148° 0' 57.5" East
Elevations:	GL 60.600 m RT 61.25 m
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:	7th November, 2002
Date Drilling Completed:	23rd November, 2002
Date Rig Released:	25th November, 2002
Drilling Time to T.D.:	17 days (Rig operated daylight hours only)
Total Depth:	364.5 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 -1. 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
06.11.02	24 hrs to 6 p.m. 6.11.02 Casing, tanks, site office and generator delivered on site. Rig delayed 24 hrs, expected on site tomorrow morning.
07.11.02	24 hrs to 6 p.m. 7.11.02 Rig on site 9.30 a.m. Rigged up/mixed mud. Held pre-spud safety meeting. Spudded well 3.49 p.m. Drilled 9.7/8" (251 mm) hole to 30.5 metres.
08.11.02	24 hrs to 6.30 p.m. 8.11.02 Drilled 9.7/8" (251 mm) hole to 59.4 metres. Ran & cemented 7" casing @ 57 m BGL
09.11.02	24 hrs to 6.30 p.m. 9.11.02 Wait on cement.
10.11.02	24 hrs to 6.30 p.m. 10.11.02 Ran & cemented 114 mm liner @ 59.4 m BGL
11.11.02	24 hrs to 6.30 p.m. 11.11.02 Rigging up.
12.11.02	24 hrs to 6.30 p.m. 12.11.02 Conducted leak off test on surface casing – failed. Recemented between 114 mm and 178 mm casing. Wait on cement.
13.11.02	24 hrs to 6.30 p.m. 13.11.02 Conducted leak off test on surface casing OK. Rig up flowline. Install BOP. Commenced drilling 3 p.m. Drilled from 59.4 to 107 m. POH & clear blocked bit.
14.11.02	24 hrs to 6.30 p.m. 14.11.02 Drilled from 107 to 155 m. Leakage noted around 7 inch casing. POH. RIH with open ended drill pipe and spotted 2 cubic m. cement plug at casing shoe. Wait on cement.
15.11.02	RIH. Tagged top cement at 84 m RT. Filled hole with cement outside 7 inch casing with returns to surface. Wait on cement.
16.11.02	24 hrs to 6.30 p.m. 16.11.02 RIH. Tagged top cement at 34 m. Drilled out of shoe to 72 m. Closed BOP and pressured up – fluid flowing into formation. Drilled ahead – well sidetracked off plug at ~ 69 m. Re-drilled to 120 m. Suction pit clogged- POH.
17.11.02	24 hrs to 6.30 p.m. 17.11.02 Dumped pits. Redrilled to 155 m. Drilled 155 to 210 m (55 m)
18.11.02	24 hrs to 6.30 p.m. 18.11.02 Drilled 210 to 282 m (72 m)

19.11.02	24 hrs to 6.30 p.m. 19.11.02 Drilled 282 m to 342 m (60 m)
20.11.02	24 hrs to 6.30 p.m. 20.11.02 Dumped pits, cleaned out drill pipe. RIH to casing shoe with core barrel.
21.11.02	24 hrs to 6.30 p.m. Thursday 21.11.02 Rig up for coring.
22.11.02	24 hrs to 6.30 p.m. Friday 22.11.02 RIH. Cored. From 342 to 355.8 m. (13.8 m)
23.11.02	24 hrs to 6.30 p.m. Saturday 23.11.02 Replace wireline cable. Core from 355.8 m. to 364.5 m. (12.7 m) Top granite at 364.4 m
24.11.02	24 hrs to 6.30 p.m. Sunday 24.11.02 RIH with log. Hole bridged at 282 m. Ran gamma log from 282 m to surface.
25.11.02	24 hrs to 6.30 p.m. Monday 25.11.02 Abandoned well with 2.7 cubic metre cement plug. Bumped top of plug at 13 m, i.e. 46 m inside surface casing. Set surface plug. Released rig.

Hole Sizes & Depths:

9-7/8" (251 mm)	Surface to 59.4 m RT
98 mm	59.4 m RT to TD (365.5 m RT)
Core size HQ	342 m to TD

Casing & Cementing:

Surface

Size	7 " (178 mm
Weight	23 lb/ft 33.7 kg/m
Grade	K55
Shoe setting depth	57 m

Liner

Size	114 mm
Weight	16 kg/m
Shoe setting depth	59.4 m

Deviation Surveys:

None taken

Drilling Fluid:

Spud-59.4 m	Freshwater gel
59.4 – TD	KCl/Polymer/PHPA

Water Supply:

Water was trucked from Lakes Entrance

Plugging & Cementing:

Plug 1	13 to 364.5 m	2.7 c.m.
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, using Lakes' own hot wire gas detector.

Ditch Cutting Samples: Ditch cutting samples were collected at 10 m intervals from surface to 60 m, and thereafter at 3 m intervals to 342 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 342 m RT and 364.5m RT (TD).

Sidewall cores: None taken.

Testing: No testing was undertaken.

Wireline Logs: A Gamma-ray log was run from 282 m to 59.4 m in open hole, and from the casing shoe to surface.

Unfortunately it was not possible to log below 282 m as the well had bridged off at this depth.

Velocity Survey: No velocity survey was undertaken.

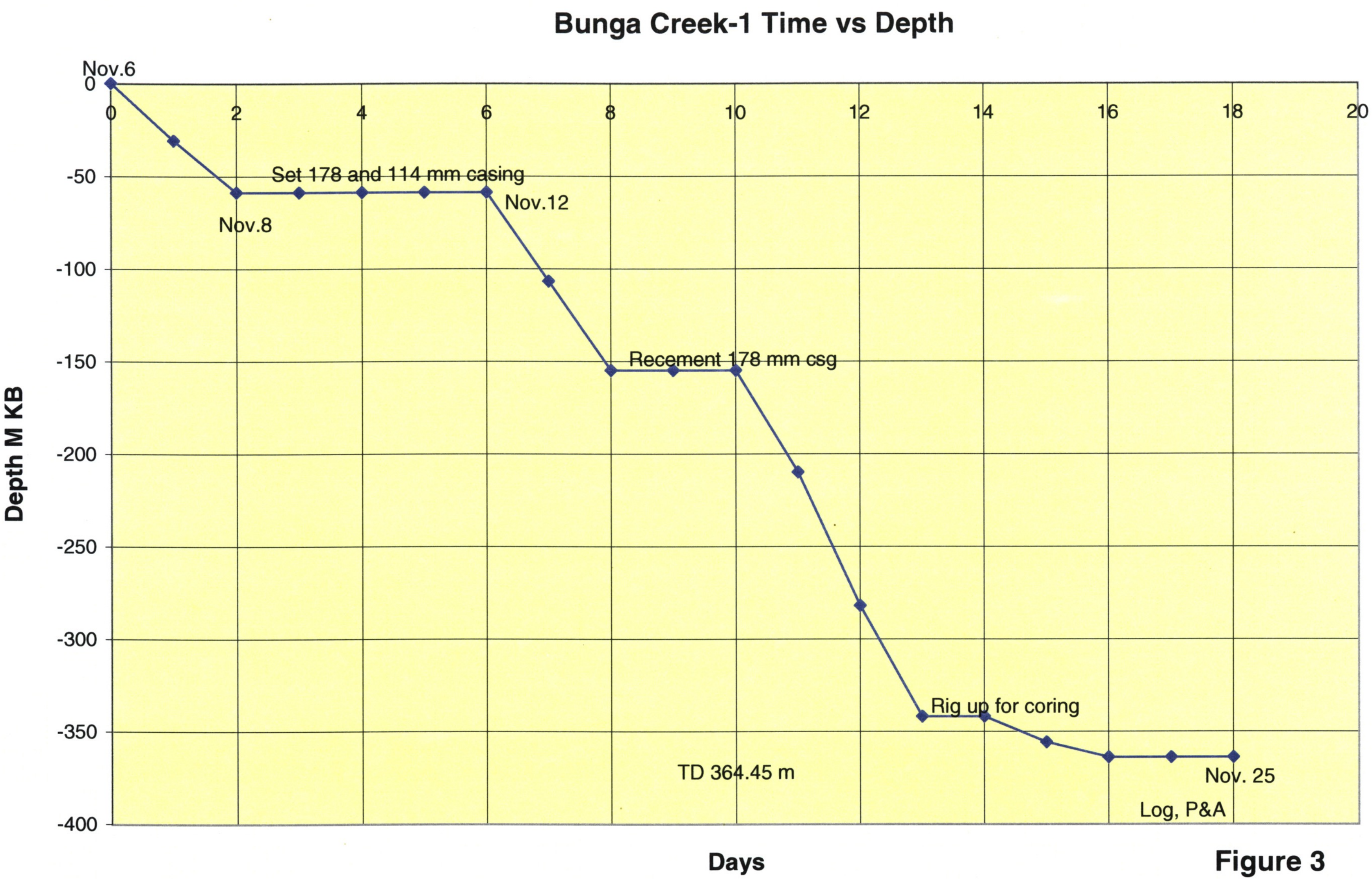

Figure 3

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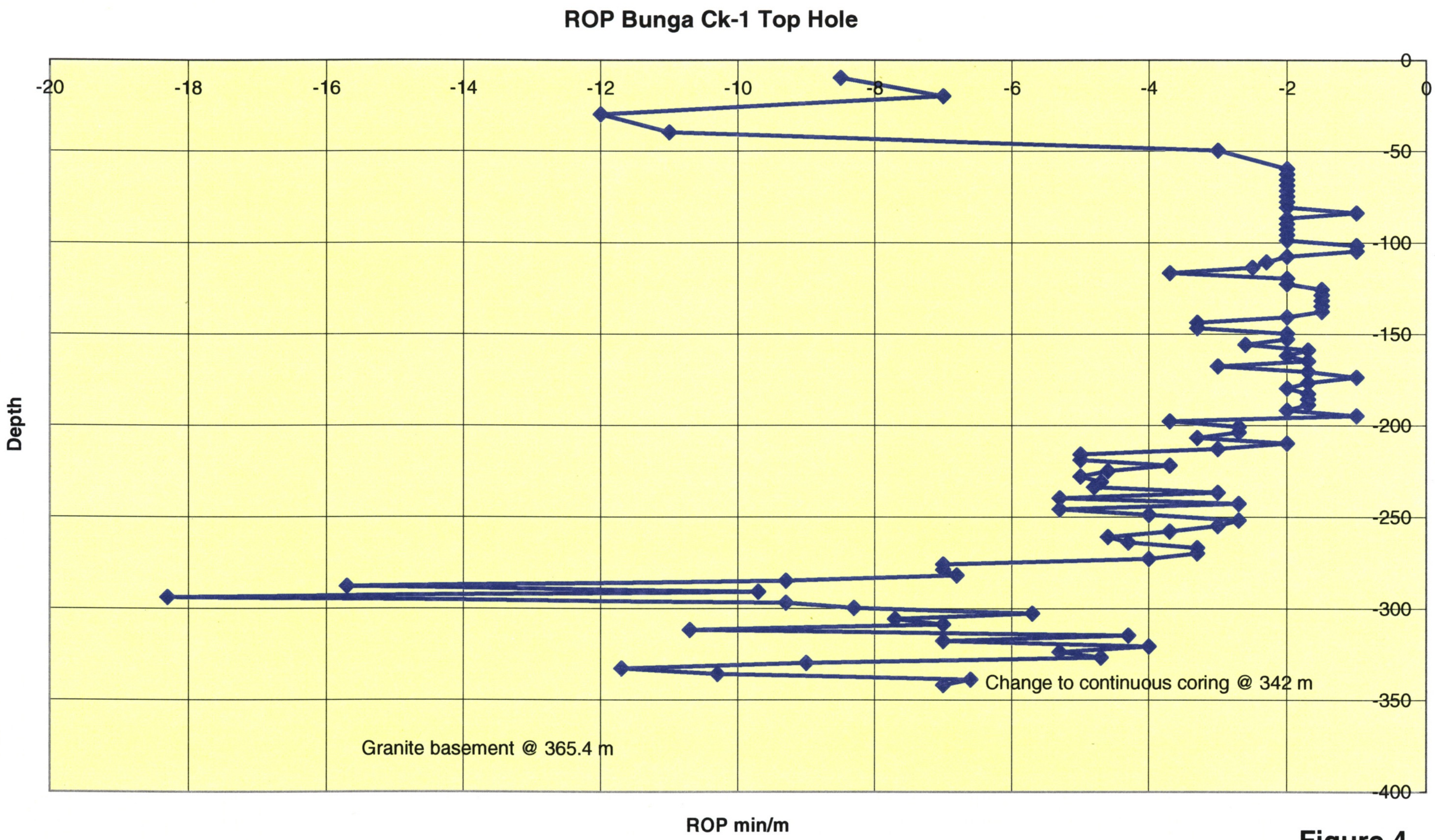

Figure 4

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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 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 155 (formerly PEP 135)

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. 'Modern' onshore Gippsland Basin petroleum exploration 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 and 3, are thought to be located within closure at the Top LaTrobe Group level.

Recently, Lakes Oil has drilled eight wells within their onshore Gippsland permits; Petro Tech-1 targeted the Colquhoun Greensand of the Lakes Entrance Formation, but RFT tests proved inconclusive; 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 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. All three wells produced gas to surface on test.

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, the 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) 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.

(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 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.

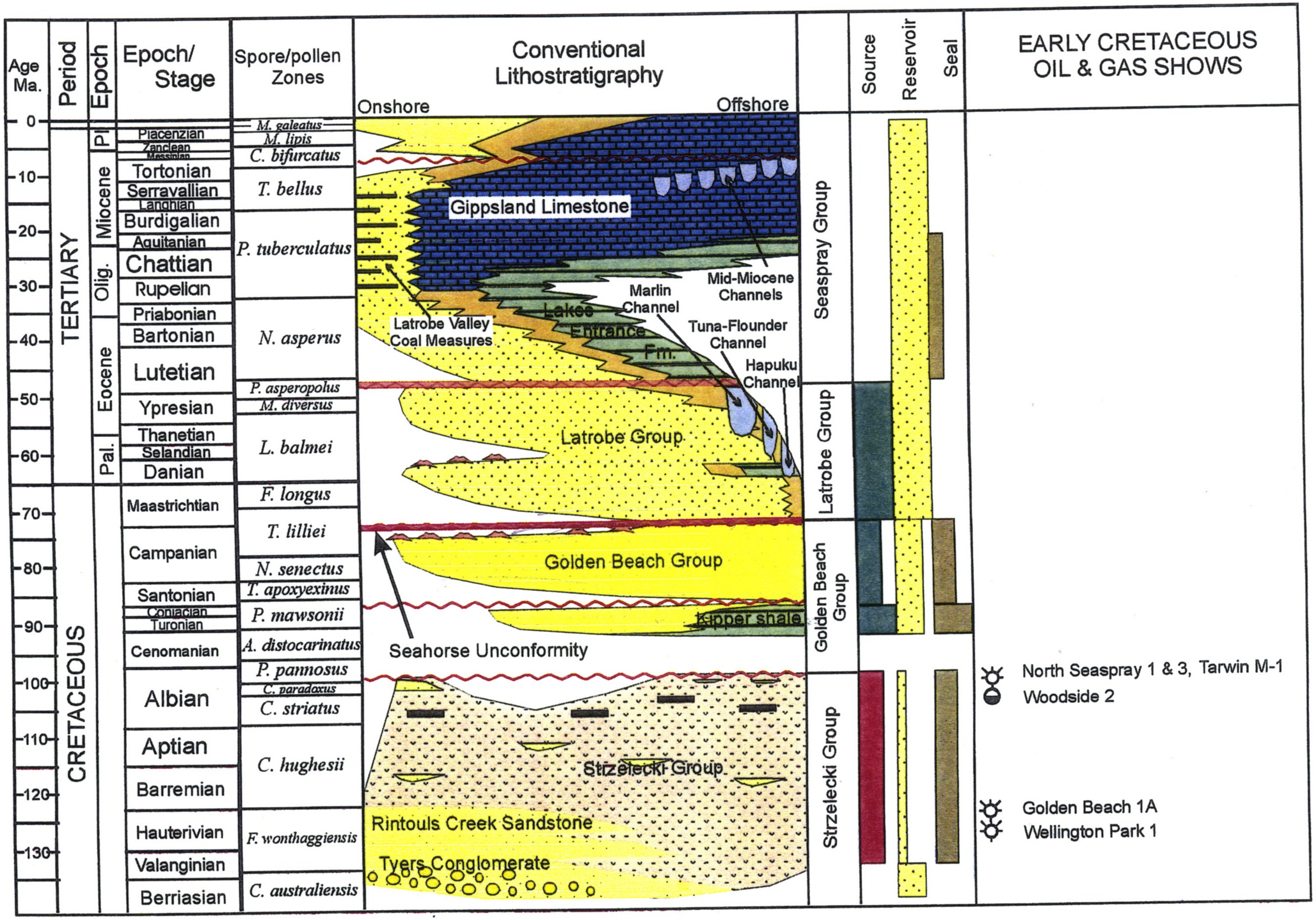
(E) Seaspray Depression: This is the onshore extension of the Central Deep. It occupies the southern onshore part of the basin, where the most complete stratigraphic section is present. The permit occupies the northeastern end of the Seaspray Depression.

(F) 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-1 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 location was also designed to test the validity of an interpreted gravity low on the July 2002 Lakes Entrance Falcon airborne survey. It was hoped that this low might indicate the presence of a significant Colquhoun Gravel section below the Greensand, with the potential to host oil in a better quality reservoir than the Greensand.

In the event no Colquhoun Gravels were intersected.



LITHOSTRATIGRAPHY
GIPPSLAND BASIN

Table 1

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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		28 m	+33	
Gippsland Limestone		55	+6	
Lakes Entrance Fm	325	300	-239	-25
Colquhoun Greensand	380	342	-281	-38
Colquhoun Gravel	400	Not present		
Basement	420	365.4	-304	-54.6

3.8 STRATIGRAPHY

TABLE II

AGE	FORMATION	DEPTH RT m	ELEVATION m	THICKNESS m
Miocene Oligocene	Jemmy's Point Fm	Surface	+61	27
Miocene Oligocene	Tambo River Fm	28	+33	27
Miocene Oligocene	Gippsland Limestone	55	+6	245
Miocene Oligocene	Lakes Entrance Fm	300	-239	65.4 m
Miocene Oligocene	(Colquhoun Greensand Member)	(342)	-281	(23.4)
Devonian	Basement Granodiorite	365.4	-304	
	Total Depth	365.5	-304	

Formation Tops were selected mostly from cuttings and core descriptions. The gamma ray log is of limited usefulness as a result of bridging at 282 m RT.

JEMMY'S POINT FM (Surface to 28 m)
Sand: light brn grey, consisting of poorly sorted fine to coarse grained, occasionally very coarse grained subrounded to rounded clear, milky & iron stained quartz grains.
Interbedded with
Clay: grey brown, soft dispersive. Traces of black lithics, no fluorescence.

TAMBO RIVER FM (28m to 55 m)
Interbedded
Sandstone: light to medium brown, consisting of very fine to fine grained quartz together with common shell fragments in a calcareous matrix. No shows.
Sand: light brn grey, consisting of poorly sorted fine to coarse grained subangular to rounded clear, milky & iron stained quartz. Dull mineral fluorescence, no cut.

Limestone: light grey to cream, consisting of unconsolidated coarse to very coarse coral and shell fragments, including bryozoa, gasteropods, lamellibranchs, & echinoid spines. Dull yellow mineral fluorescence, no cut. Occasional hard bands or concretions with strong calcareous cementation.
Marl: grey, soft, slightly carbonaceous, silty-grading to calcareous siltstone.

GIPPSLAND LIMESTONE (55m to 300 m)
55-117 m
Limestone: light grey to cream, consisiting of unconsolidated coarse to very coarse coral and shell fragments, including bryozoa, gasteropods, lamellibranchs, & echinoid spines. Dull yellow mineral fluorescence.
Occasional interbeds of
Sandstone: light to medium grey, firm, calcareous, consisting of very fine to fine grained quartz, less calcareous in part, slightly carbonaceous, slightly micaceous, micaceous.
117-300 m
Limestone: light grey to cream, consisiting of predominantly fine to medium grained coral and shell fragments, including bryozoa, gasteropods, lamellibranchs, & echinoid spines. Dull yellow mineral fluorescence. Occasional traces of mica
Traces of glauconite observed from 162 m.
Interbeds of
Marl: light green, soft, dispersive, more common towards base of unit.

LAKE ENTRANCE FORMATION (300-365.40)
(300m-342m)
Siltstone: Grey brown, argillaceous, slightly carbonaceous, calcareous, micaceous in part, slightly sandy in part, soft. Common traces of glauconite and pyrite.
Limestone: light grey to cream, consisiting of predominantly fine to medium grained coral and shell fragments, including bryozoa, gasteropods, lamellibranchs, & echinoid spines. Dull yellow mineral fluorescence. Occasional traces of mica.
Traces of glauconite.
(Note: It would appear there has been a degree of recycling of uphole limestone cuttings from the mud pit).
(342-365.4 m)

COLQUHOUN GREENSAND MEMBER
Sandstone: light brown, grey brown, very fine grained to 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.
Common pyrite nodules circa 349.6 m.
Strong calcite cementation at base of unit.

GRANODIORITE (365.4 →)
Grey, hard. Refer Appendix I.

3.8 HYDROCARBON SHOWS

Only traces of methane were observed throughout the drilling of Bunga Creek-1 (refer 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 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.

Following the disappointing results of Bunga Creek-1 it was decided to locate a second exploratory well in the eastern end of the field, but in closer proximity to the discovery well, Lake Bunga-1, drilled in 1924.

5.0 COMPLETION

Bunga Creek-1 was plugged and abandoned in accordance with DNRE and Southern Rural Water requirements on 25.11.2002.

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Appendix 1

Petrographic descriptions &
density Rpt.

GEOTRACK

913649 023

Petrographic descriptions and density determinations in two granitic rocks (Bunga Creek-1 and outcrop) Lakes Entrance area, Gippsland

GEOTRACK REPORT #870

A report prepared for Lakes Oil, N.L., Melbourne

Report prepared by: I. R. Duddy

February 2003

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913649 024

GEOTRACK 913649 025

Petrographic description and density determinations in two granitic rocks (Bunga Creek-1 and outcrop), Lakes Entrance area, Gippsland

GEOTRACK REPORT #870

EXECUTIVE SUMMARY

Introduction and Objectives

Two granitic rock samples, one from 364.4 m in the Bunga Creek-1 borehole (GC870-1) and the second from outcrop in an abandoned quarry in the Colquhoun granite (RD59-32), were submitted for petrographic description and density determinations by Lake Oil N.L.

Key Conclusions

1. A density of 2.68 g/cc was determined for sample GC870-1 from the Bunga Creek-1 borehole whereas sample RD59-32 from the Colquhoun granite outcrop has a density of 2.61 g/cc.

3. On the basis of the optical petrography sample GC870-1 is classified as a GRANODIORITE whereas sample RD59-32 is classified as a GRANITE.

4. Compared to RD59-32, sample GC870-1 from the Bunga Creek-1 borehole has significantly more quartz and a much higher ratio of plagioclase to alkali feldspar, and a higher mafic content. These mineralogical differences are consistent with the measured densities of the two samples.

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913649 026

Petrographic description and density determinations in two granitic rocks (Bunga Creek-1 and outcrop), Lakes Entrance area, Gippsland

GEOTRACK REPORT #870

1. Introduction

1.1 Sample details and methods

This report comprises density determinations and petrographic descriptions of two granitic rock samples supplied by Lake Oil N.L. Sample GC870-1 comes from the basement intersected at TD (364.4 m) in the Bunga Creek-1 Borehole (AMG Coordinates 589381 E 5809890 N) while the second is from an abandoned quarry in the Colquhoun Granite (AMG Coordinates 586000 E 581400 N), ~6 kilometres north west of the Bunga Creek-1 Bore hole location (Figure 1.1).

The density of each sample was measured using heavy liquids progressively diluted with known volumes of ethanol calibrated with glass density standards that encompass the density of the unknown samples.

The petrography of each sample was described from polished thin sections using an optical petrographic microscope. The descriptions are illustrated with several digital images.

1.2 Report structure

The main conclusions of the report are presented in the Executive Summary. Section 1 of this report provides a brief summary of the samples analysed, the methods used and the report structure. Details of the density determinations are provided in Section 2. The petrographic description for each sample, including digital photomicrograph images, is presented in Section 3.

[redacted]

2

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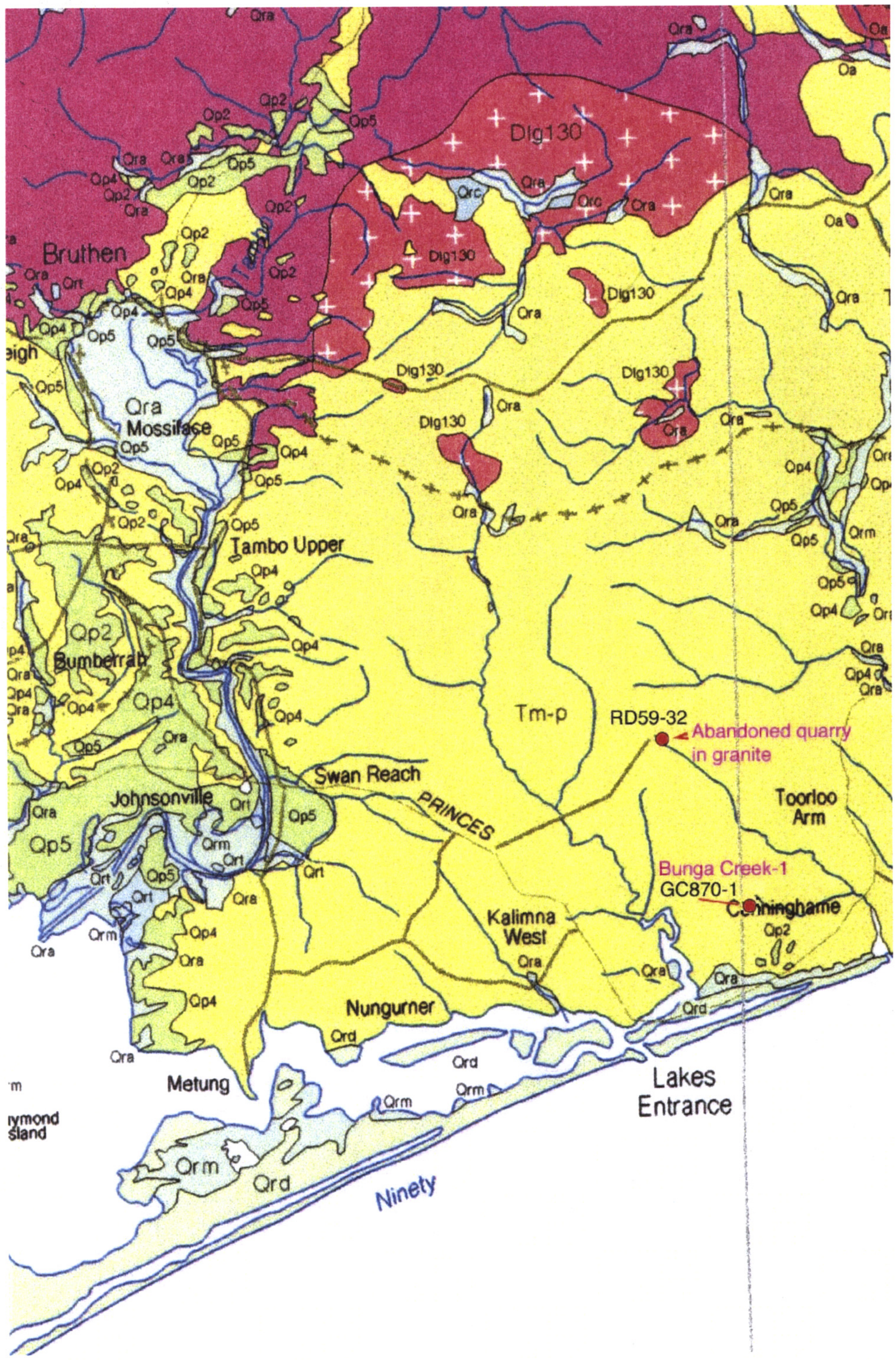

Figure 1.1: Locations of Bunga Creek-1 (sample GC870-1) and the abandoned quarry (sample RD59-32) from which granite samples were analysed in this report.

2. Density determinations

The density of each sample was measured using heavy liquids progressively diluted with known volumes of ethanol until the sample sank. The liquid density was calibrated with glass density standards that encompassed the density of the unknown samples.

	cc	Comments
Volume of liquid of density 2.703 g/cc	385.00	2.703 g/cc standard sinks
Volume of ethanol of density 0.791 g/cc added	5.50	Sample GC 870-1 sinks
Total volume	390.50	[redacted]
Calculated density of Sample 870-1	-	
Volume of ethanol of density 0.791 g/cc added	14.00	Sample RD59-2 sinks
Total volume	404.50	[redacted]
Calculated density of Sample RD59-32	-	
Volume of ethanol of density 0.791 g/cc added	1.80	2.605 /cc standard sinks
Total volume	406.30	[redacted]
Calculated density of 2.605 g/cc density bead	-	

Note:

Each sample weighed around 50 g.

3. Petrographic descriptions

Petrographic descriptions were requested for two granite samples from the Lakes Entrance area, and these were carried our by Professor Aldo Cundari, University on Naples, Italy.

GC870-1: Bunga Creek-1 Borehole, 364.4 metres, Lakes Oil N.L. (AMG Ref. 589381 E 5809890 N).

RD59-32: Colquhoun granite outcrop sample from the abandoned Quarry (AMG Ref. 586000 E 581400 N). (~ 6 km NW of Bunga Creek-1).

3.1 GC 870-1: Bunga Creek-1 Borehole, 364.4 metres.

Texture: Holocrystalline, medium grained (< 5 mm), isotropic texture.

Mineralogy: In order of decreasing abundance:

1) QUARTZ: 40-50% volume, anhedral. Variable grainsize up to ~ 3 mm diameter. Common as interstitial phase to feldspar.

2) FELDSPAR: 30-40% volume euhedral to subhedral down to <1mm in grain size. Zoning, simple and multiple twinning are common. Core of some crystals pseudomorphed by muscovite and sericite, perhaps indicating replacement of an original K-rich feldspar.

- Microcline with microperthite is present, indicating slow cooling after initial crystallisation allowed the solvus to be attained by the liquid.
- Alkali feldspar with microperthite is also present.
- Plagioclase: distinguished by multiple twinning. Sericite and muscovite pseudomorphs are present, often at the core, possibly indicating the original presence of a K-rich feldspar.
- Plagioclase to alkali feldspar ratio is approx. 2:1 indicating a GRANODIORITE.

3) MICA: 3 to 5% by volume. Probably biotite, strongly pleochroic suggesting that the dominant mica is iron-rich. Zircon inclusions with radioactive haloes are present.

- Chlorite, probably an alteration product of biotite is present.
- Muscovite is also present as noted above.

Rock Name: The ratio of plagioclase to alkali feldspar at ~2:1 classifies this rock as a GRANODIORITE

Figure 3.1: Sample GC870-1. Granodiorite, Bunga Creek-1, 364.4 m

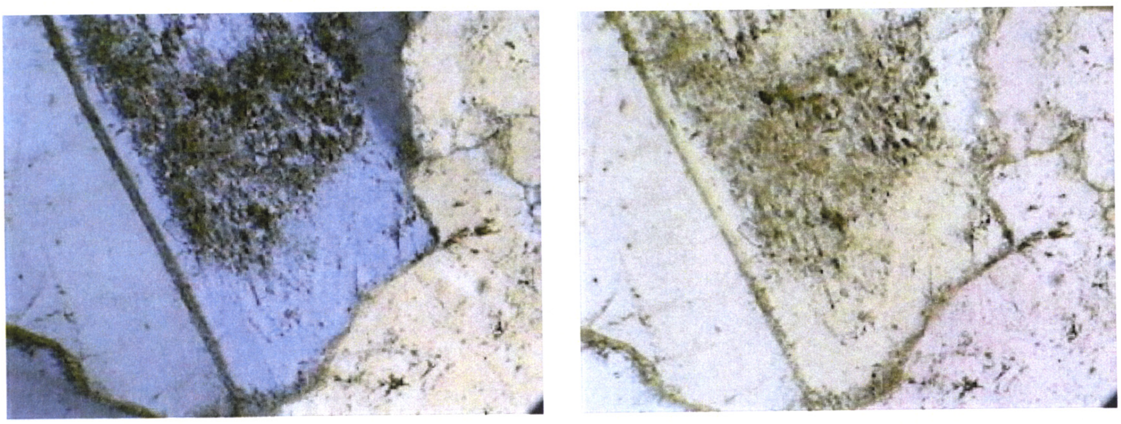

Figure 3.2: Granodiorite, Bunga Creek-1, 364.4 m. Altered core of plagioclase, possible original K-rich feldspar new replaced by sericite. Left image crossed polars, right image, plane light. Width of field of view = 0.80 mm

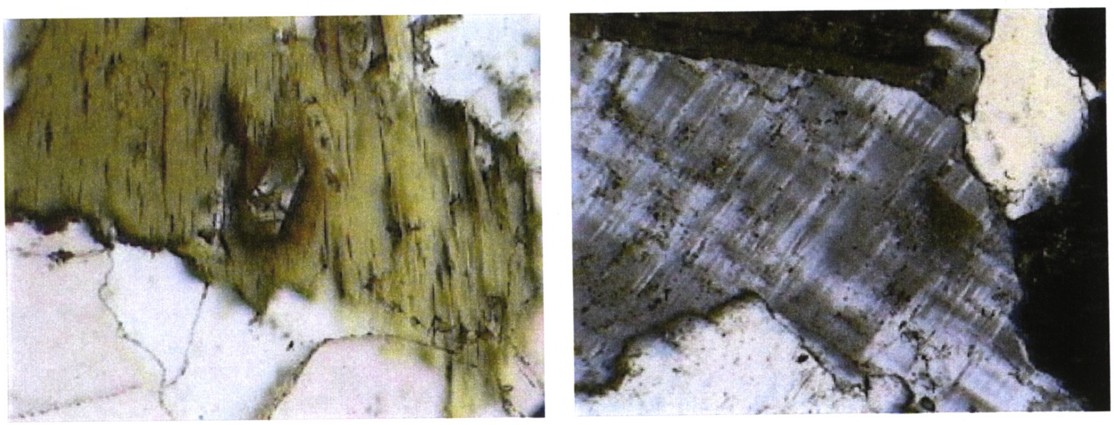

Figure 3.3: Granodiorite, Bunga Creek-1, 364.4 m. Left image, plane light, biotite with zircon inclusion and radioactive halo. Right image, crossed polars, Microperthite Width of field of view = 0.80 mm

3.2 RD59-32: Abandoned Quarry, Colquhoun Granite

Texture: Holocrystalline, medium grained (< 5 mm), isotropic texture, similar to GC870-1

Mineralogy: In order of decreasing abundance:

1) FELDSPAR: 60-70% by volume. Alkali feldspar clearly distinguished from plagioclase by microperthitic structure and extensive alteration (?clay minerals). Alteration is less important with plagioclase.

- Perthite structure in alkali feldspar appears to be better developed than in sample GC870, suggesting slower cooling.
- Few microcline crystals with ex-solution.
- Alkali feldspar appears to have started its crystallisation prior to that of the co-existing plagioclase, however, some plagioclase-mantled alkali feldspar is also present.
- Plagioclase: Subordinate to alkali feldspar. Maximum extinction angle measured in sections showing symmetrical zoning is ~15° indicating an Oligoclase composition. Smaller crystals are generally clear and show well-developed twinning. Plagioclase is subordinate to alkali feldspar in the mode.

2) QUARTZ: 30-35% by volume. Variable grainsize up to ~4 to 1 mm diameter, suggesting an extensive crystallisation history.

3) MUSCOVITE: Primary phase, more abundant than biotite.

4) BIOTITE: Few crystals only. Strongly pleochroic suggesting an iron-rich composition. Inclusions of apatite and zircon with radioactive haloes. CHLORITE pseudomorphs after biotite. MAFICS overall <5% volume

Rock Name: The relative dominance of alkali feldspar over plagioclase classifies this rock as a GRANITE.

[redacted]

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Figure 3.4: Sample RD59-32. Granite, abandoned quarry in Colquhoun Granite

Figure 3.5: Granite, Colquhoun Granite outcrop RD59-32.
Left image, crossed polars, Microperthite. Right image, crossed polars, Biotite and quartz. Width of field of view = 0.80 mm

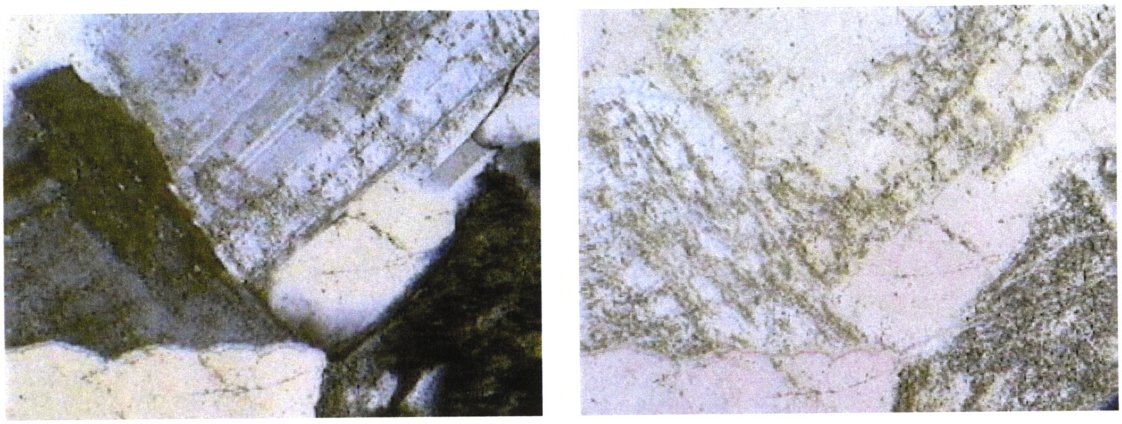

Figure 3.6: Granite, Colquhoun Granite outcrop RD59-32.
Plagioclase showing some alteration to sericite. Left image, crossed polars, Right image, plane light. Width of field of view = 0.80 mm

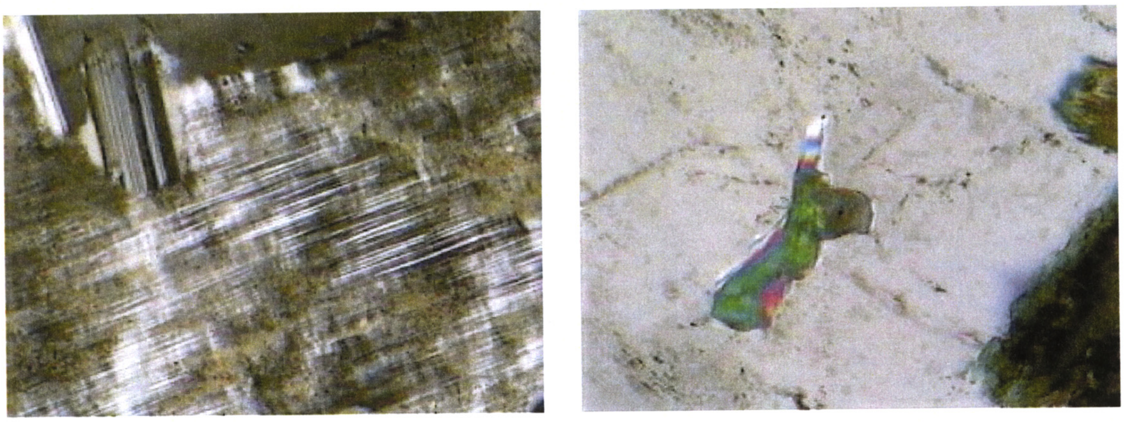

Figure 3.7: Granite, Colquhoun Granite outcrop RD59-32.
Left image, crossed polars, smaller relatively unaltered plagioclase with more altered (sericite) perthitic alkali feldspar. Right image, small muscovite inclusion in quartz, crossed polars,
Width of field of view = 0.40 mm

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Appendix 2

Appendix 2

Micropalaentological Rpt

MICROPALAEONTOLOGICAL REPORT
for LAKE OIL P/L
on Two samples from Bunga Creek-1

REPORT 01/03

Dr. Stephen Gallagher

School of Earth Sciences, The University of Melbourne,

Victoria 3010.

Micropalaeontology report on two samples from Bunga Creek-1 for Lakes Oil P/L

INTRODUCTION

The following is a report on two samples from Bunga Creek-1 in Gippsland. The two samples were processed by standard micropalaeontolgical techniques. The biozonation used in this work is shown on Figure 1 and the biostratigraphic data in Table 1.

Sample 351.05m

Lithology: Brown glauconitic silty sandstone with bivalves, gastropods, echinoderm spines and rare fish teeth.

Microfauna: A sparse diverse microfauna occurs in this sample.
Benthic: Benthic foraminfera include abundant *G. subglobosa* and *C. perforatus* with lesser amounts of other rotaliids such as *E. lornensis, Vaginolopsis gippslandicus* and *Cibicides medoicris*

Planktonic: Plankton are rare consisting of two specimens of *G. ampliaperura* and *G. testarugosa.*

Palaeoenvironment: The fauna although devoid of plankton is typical of an oligotrophic (ie nutrient starved) outer shelf environment with lesser elements of a middle shelf fauna that could have been reworked into this sample.

Age: The sparse plankton suggests an Early Oligocene J2-J1 Taylor Zonule age.

Correlatives: The age, facies and nature of the fauna typifies the Lower Lakes Entrance Formation as described in Holdgate and Gallagher

Sample 362.17-364.2m

Lithology: Strongly cemented green glauconitic sandstone with bivalve molds and bryozoans. A significant lithic pebbly component occurs in the sample.

Microfauna: A sparse microfauna occurs in this glauconite-rich sample. Rigorous chemical and mechanical processing failed to disaggregate this sample fully.

Benthic: Rare benthic rotaliids occur, including *C. perforatus, C. ihungia* and *Vaginulinopsis* spp.

Planktonic: No plankton were found in this sample.

Palaeoenvironment: Based on faices and the sparse benthic fauna this sample was deposited in a high energy possibly outer shelf environment,

Age: Although no plankton were found, the benthic faunal similarity between this sample and the overlying sample (together with a consideration of the lithology) it is concluded that this sample is likely to be similar in age to that at 351.05m.

Correlatives: This bio and lithofacies belongs to the Lower Lakes Entrance Formation of Holdgate and Gallagher (1997).

Micropalaeontology report on two samples from Bunga Creek-1 for Lakes Oil P/L

References:

HOLDGATE, G. & GALLAGHER, S. 1997. Microfossil paleoenvironments and sequence stratigraphy of Tertiary cool-water carbonates, onshore Gippsland Basin, southeastern Australia. Spec. Publication SEPM, 56, 205-220.

MCGOWRAN, B., LI, Q. & MOSS, G. 1997. The Cenozoic neritic record in southern Australia: the biogeohistorical framework. In: N. James and C. J. ed. Cool and Temperate Water Carbonates, Vol. 56, pp. 185-203. Society of Economic Palaeontologists and Mineralogist, Tulsa. Special Publication.

TABLE 1 — **Bunga Creek-1**

Core	**Depth Metres**	**351.1**	**364.17** / **364.2**
	International zone	**P18-P20**	
	Taylor zonules	**J2-J1**	
	Epochs	**Early Oligocene**	
	Palaeoenvironment	Middle-outer shelf	
	Stratigraphic Unit Holdgate & Gallagher 1997	Lower Lakes Entrance Fm	

BIO STRAT

	I	M	O	ub	mb	Taxon	Species	351.1	364.17–364.2	BIO STRAT
						ROTALIIDS				
i	1	3	2	1		*Parrellina*	*crespinae*	X		Mid Shelf taxa
e	1	3	3	2	1	*Cibicides*	*mediocris*	X		
e	1	3	3	2	1	*Cibicides*	*ihungia*		X	
i	1	2	3	2	1	*Astrononion*	*centroplax*	X		OUTER Shelf
i	1	2	3	2	1	*Astrononion*	*tasmanensis*	X		
i	2	1	2	2	2	*Bolivina*	spp.	X		
i	2	1	2	2	2	Bolivinid			X	
e	1	1	2	2		*Eponides*	*lornensis*	X		
e		3	3	3	3	*Cibicidoides*	*perforatus*	XX	X	
i		1	3	3	1	*Globocassidulina*	*subglobosa*	XX		
e	1	1	2	3	2	*Lenticulina*	spp.	X	X	
e			2	2	1	*Gyroidinoides*	*zealandica*	X		
i						*Vaginulinopsis*	*gippslandicus*	X		
i						*Vaginulinopsis*	spp.		X	
e						*Cerobertina*	spp.	X		
						TEXTULARIIDS				
e						*Dorothia*	*minima*	X		
						MILIOLINIDS				
e						*Triloculina*	spp.	X		
						PLANKTONICS				
						Globorotaloides testarugosa		X		
						Globoturborotalia ampliapertura		X		

International zone	**P18-P20**	
Taylor zonules	**J2-J1**	

Micropalaeontology report on two samples from Bunga Creek-1 for Lakes Oil P/L

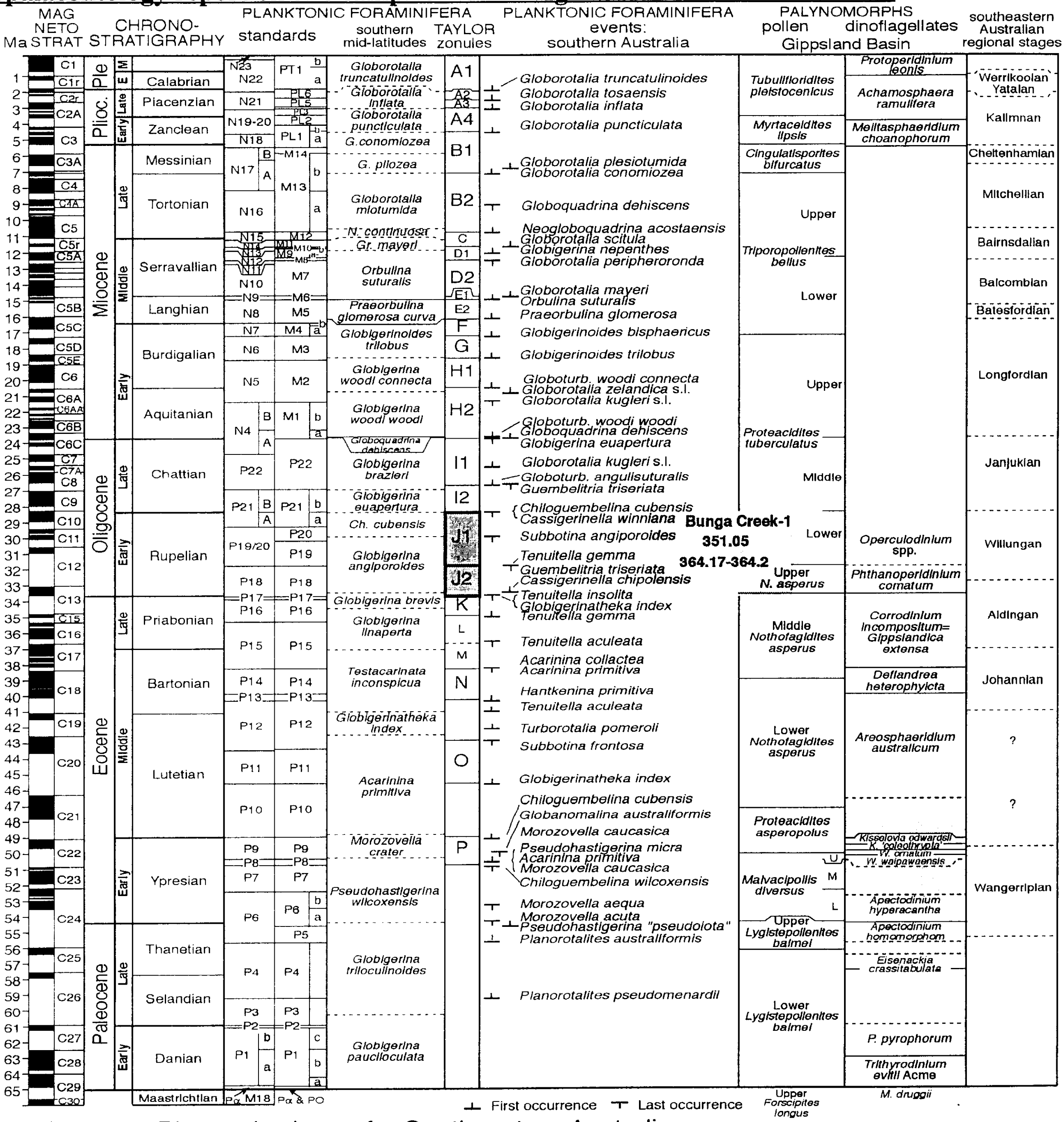

Figure 1: Biozonal scheme for Southeastern Australia (adapted from McGowran et al. 1997)

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Appendix 3

Jones Bay-1, Patties Pies-1, Bunga Creek-1 & Bunga Creek-2

Co-ordination data

Appendix 3

AUSTEC SURVEYING CONSULTANTS PTY LTD ACN 006 347 100

TITLE & ENGINEERING SURVEYORS :: LAND DEVELOPMENT CONSULTANTS

Ref 03300.C01
24/06/03

Lakes Oil N.L.
P.O. Box 300
Collins Street West
Melbourne, 8007.

Att: Mr J. Mulready
Re: Wellsite Surveys
Location: Bayview Road, Bairnsdale
And Bunga Creek, Lakes Entrance.

Further to your request we have completed the co-ordination of the bore holes at Bairnsdale and Lakes Entrance.

Jones Bay-1	E 559212.975	N 5809565.222	RL 2.200	PSF 0.99964318
Patties Pies-1	E 559321.145	N 5810466.907	RL 2.280	PSF 0.99964334
Datum:	Parish of Broadlands PM 35 Parish of Bairnsdale StMarys Spire			

Bunga Creek-1	E 589376.388	N 5809860.128	RL 60.600	PSF 0.99969839
Bunga Creek-2	E 591192.088	N 5810294.796	RL 43.890	PSF 0.99970242
Datum:	Parish of Colquhoun PM's 32 & 33			

- The above co-ords have been deduced from ground survey work to an estimated accuracy of +/- 0.02m.
- The co-ords are to the centre line at ground level of the bores, except for "Jones Bay-1" This bore has not yet been drilled. The co-ords are to the centre of the northern edge of a dirt ramp, at a distance of 7.45m on Magnetic Brg of about 7^0 from a steel (GI) stake placed on site.

Yours Faithfully,

Bruce Bowden

Bruce Bowden.
Licensed Surveyor

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Appendix 4

Cuttings and Gas Log Data

Appendix 4

LAKES OIL NL BUNGA CREEK-1
CUTTINGS AND GAS LOG

Depth metres	Drill Rate min/m	Gas Units	Description	Comments
0-10	8.5	N/O	60% SAND: lt brn gy, consisting of poorly sorted f-cg, occ vcg subrounded to rounded clear, milky and Fe stained qtz grns. 40% CLAY: gy-brn, ,soft, dispersive. Common Tr. black liths. No fluorescence.	Gas detector not operational until surface casing set.
20	7.0	N/O	SAND: a/a Common Tr liths a/a. Rare Tr yellow mineral fluorescence.	
30	12.0	N/O	70% SAND: a/a Common Tr liths a/a 30% SANDSTONE: lt-md brn vf-fg qtz and common coral/shell frags, calc. Dull yell. min fluor. No cut	Several hard bands due to calc. cementation Top Tambo R. Fm ~28 m.
40	11.0	N/O	50% SAND: poorly sorted a/a, some subang. Common Fe staining. 50% LIMESTONE & MARL: Lst is lt gy-cream. Unconsolidated, cons. of coarse to very coarse coral and shell frags. incl bryozoa, gasteropods, lamellibranchs, echinoid spines. Fragments show evidence of rounding. Dull yell. min fluor. No cut Comm. Tr calc. sst. a/a	
50	3.0	N/O	30% MARL: gy, soft, calc. silty grading to calc. sltst.,sl. carb. 30% SAND: a/a 40% LIMESTONE & MARL: a/a. Tr mica. Dull yell. min fluor. No cut	
60	2.0	N/O	50% MARL: a/a grding to calc. sltst. 50% LIMESTONE & MARL: a/a. Dull yell. min fluor. No cut	Surface casing Point. End 9.7/8" hole @ 59.4 m. Top Gippsland Lstone est. 55 m

63	2.0	0	80% LIMESTONE & MARL: a/a 10% SSTONE: lt[md gy, vf-fg, calc, sl carb. sl. mic.firm 10% SLTST.:md gy, firm, non calc.	Gas detector operational
66	2.0	0	90% LIMESTONE & MARL: a/a 5% SSTONE: a/a 5% SLTST: a/a	
69	2.0	0	70% LIMESTONE & MARL: a/a 20% SSTONE: a/a msotly non calc. 10% SLTST: a/a Coom tr carb flecks.	
72	2.0	0	90% LIMESTONE & MARL: a/a 10% SSTONE: a/a	
75	2.0	0	90% LIMESTONE & MARL: a/a 10% SSTONE: a/a	
78	2.0	0	90% LIMESTONE & MARL: a/a 10% SSTONE: a/a	
81	2.0	0	90% LIMESTONE & MARL: a/a 10% SSTONE: a/a	
84	1.0	0	70% LIMESTONE & MARL: a/a 30% SANDSTONE: pred lt gy, calc, vf-fg,	
87	2.0	0	90% LIMESTONE & MARL: a/a 10% SSTONE: a/a	
90	2.0	0	100% LIMESTONE & MARL: a/a	Marl matrix not evident in cuttings - appears to be passing into solution,

				producing highly viscous mud.
93	2.0	0	100% LIMESTONE & MARL: a/a	. Marl appears to be lt brn. soft, dispersive
96	2.0	0	100% LIMESTONE & MARL: a/a	
99	2.0	0	100% LIMESTONE & MARL: a/a	
102	1.0	0	100% LIMESTONE & MARL: a/a	
105	1.0	0	100% LIMESTONE & MARL: a/a	Bit blocked POH clean
108	2.0	0	80% LIMESTONE & MARL: a/a 20% SANDSTONE: a/a	Carbide check – carbide blocked bit.
111	2.3	0	100% LIMESTONE & MARL: a/a	Carbide gave 5 units when circulation restored
114	2.5	0	100% LIMESTONE & MARL: a/a	
117	3.7	0	100% LIMESTONE & MARL: a/a Tr gy slst.	
120	2.0	0	100% LIMESTONE & MARL: Lst is unconsolidated, cons. of pred. f-mg coral and shell frags. incl bryozoa, gasteropods, lamellibranchs, echinoid spines. Dull yell. min fluor. No cut Marl is washing out, but appears to be soft, lt brn gy dispersive.	
123	2.0	0	100% LIMESTONE & MARL: a/a	
126	1.5	0	100% LIMESTONE & MARL: a/a f-mg	
129	1.5	0	100% LIMESTONE & MARL: a/a f-mg	
132	1.5	0	100% LIMESTONE & MARL: a/a pred fg	
135	1.5	0	100% LIMESTONE & MARL: a/a pred. fg-occ mg.	
138	1.5	0	100% LIMESTONE & MARL: a/a pred fg	
141	2	0	100% LIMESTONE & MARL: a/a f-mg	
144	3.3	0	100% LIMESTONE & MARL: a/a fg-occ mg.	
147	3.3	0	100% LIMESTONE & MARL: a/a fg	
150	2	0	100% LIMESTONE & MARL: a/a fg Tr mica	
153	2.0	0	100% LIMESTONE & MARL: a/a f-occ mg	

156	2.6	0	100% LIMESTONE & MARL: a/a fg tr mica	
159	1.7	0	100% LIMESTONE & MARL: a/a f-mg. Tr glauc.	Resumed drilling after 4 day break @1.11 p.m.
162	2.0	0	100% LIMESTONE & MARL: a/a fg Tr glauc a/a	
165	1.7	0	90% LIMESTONE & MARL: a/a 10% SILTSTONE: gy,gy brn, brn, firm, calc. Tr. glauc.	
168	3.0	0	100% LIMESTONE & MARL: a/a fg. Tr. Sltst Tr glauc a/a.	
171	1.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc.	
174	1.0	0	100% LIMESTONE & MARL: a/a fg Tr glauc.	
177	1.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc. Tr slst a/a	
180	2.0	0	100% LIMESTONE & MARL: a/a fg Tr glauc	Carbide test 211 units from 50 g carbide. Lag time 12 minutes
183	1.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc. Tr carb flecks.	Continue to make mud – marl being dispersed, not noted in washed samples. Marl appears to be lt brn. soft, dispersive
186	1.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc	
189	1.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc	
192	2.0	0	100% LIMESTONE & MARL: a/a fg Tr glauc Comm. Tr. calc sltst. a/a	
195	1.0	0	100% LIMESTONE & MARL: a/a fg Tr glauc Comm. Tr. calc sltst. a/a	
198	3.7	0	90% LIMESTONE & MARL: a/a fg 10% MARL: lt grn, soft, dispersive, v.calc.	Note: Sample probably 40-50% marl for ~ last 130 m
201	2.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc Comm. Tr. calc brn sltst. a/a	
204	2.7	0	100% LIMESTONE & MARL: a/a fg Tr glauc Comm. Tr. calc sltst. a/a	
207	3.3	0	100% LIMESTONE & MARL: Interbedded. Lt Gy-cream. Unconsolidated, cons. of f-mg coral and shell frags. incl bryozoa, gasteropods, lamellibranchs, echinoid spines. Dull yell. min fluor. No cut. Rare Tr glauc.	

210	2.0	0	100% LIMESTONE & MARL: a/a Rare Tr glauc .	
213	3.0	0	100% LIMESTONE & MARL: a/a Common tr green claystone, soft calc. Tr glauc.	
216	5.0	0	100% LIMESTONE & MARL: a/a Tr glauc.	
219	5.0	0	100% LIMESTONE & MARL: a/a Tr glauc, Tr grn claystone	
222	3.7	0	100% LIMESTONE & MARL: f-mg a/a Tr glauc	
225	4.6	0	100% LIMESTONE & MARL: f-mg a/a Tr glauc	
228	5.0	0	100% LIMESTONE & MARL: f-mg a/a Tr glauc	
231	4.7	0	100% LIMESTONE & MARL: f-mg a/a Tr glauc	
234	4.8	0	100% LIMESTONE & MARL: f-mg a/a Tr glauc Tr dark green calc. siltstone	
237	3.0	0	100% LIMESTONE & MARL :f-mg a/a common glauconite common tr dark green-brn siltstone	
240	5.3	0	90% LIMESTONE & MARL f-mg a/a common glauconite 10% SILTSTONE siltstone gy brn calc. tr pyrite	
243	2.7	0	25% LIMESTONE & MARL a/a 75% SILTSTONE a/a Tr glauconite, Tr pyrite	
246	5.3	0	100% LIMESTONE & MARL a/a Tr glauconite Tr pyrite	
249	4.0	0	25% LIMESTONE & MARL a/a 75% SILTSTONE a/a Tr glauconite tr pyrite	
252	2.7	0	25% LIMESTONE & MARL a/a 75% SILTSTONE a/a Tr glauconite Tr pyrite	
255	3.0	0	90% LIMESTONE & MARL; a/a 10% SILTSTONE: a/a Comm. tr glauconite	
258	3.7	0	50% LIMESTONE & MARL a/a 50% SILTSTONE: a/a Comm. tr glauconite	
261	4.6	0	50% LIMESTONE & MARL a/a 50% SILTSTONE: a/a Comm. tr glauconite	
264	4.3	0	80% SILTSTONE: a/a gy grn, calc. 20 % LIMESTONE & MARL a/a Comm. tr glauconite	

267	3.3	0	60% SILTSTONE: a/a gy grn, calc. 40% LIMESTONE & MARL a/a Comm. tr glauconite	
270	3.3	0	50% LIMESTONE & MARL a/a 50% SILTSTONE gy gn , calc common pyrite Comm. tr glauconite	Carbide test 82 units from 15 gm carbide. 19 mins bottoms up.
273	4.0	0	60% LIMESTONE & MARL a/a 40% SILTSTONE a/a Comm. tr glauconite	Suspect limestone is recycled from pit.
276	7.0	1	70% LIMESTONE & MARL a/a 30%SILTSTONE a/a Comm. tr glauconite	
279	7.0	1	70% LIMESTONE a/a 30% SILTSTONE a/a Comm. tr glauconite	
282	6.8	1	80% LIMESTONE a/a 20% SILTSTONE a/a Comm. tr glauconite	
285	9.3	2	90% SILTSTONE: gy grn, gy brn, arg, calc.soft 10% LIMESTONE: a/a Tr glauc.	
288	15.7	2	50% SILTSTONE : gy grn, gy brn,arg,calc,soft 50%LIMESTONE: a/a (Recycled?) Tr glauconite	,
291	9.7	2	50% SILTSTONE : a/a 50% LIMESTONE : a/a (Recycled?) Tr glauconite	
294	18.3	2	50% SILTSTONE :a/a 50% LIMESTONE :a/a (Recycled?) Tr glauconite Tr pyrite	
297	9.3	2	70% LIMESTONE a/a (Recycled?) 30%SILTSTONE :a/a Tr glauconite; common Tr pyrite	
300	8.3	3	70% LIMESTONE a/a (Recycled?) 30%SILTSTONE :a/a Tr glauc.	
303	5.7	2	50% LIMESTONE a/a (Recycled?) 50%SILTSTONE :a/a Tr glauc. Tr sst vfg, arg,calc.	Mud wt in 8.6 lb/gall Mud wt out 8.7 lb/gall
306	7.1	2	80% LIMESTONE a/a (Recycled?) 20%SILTSTONE :a/a Tr glauc.	

309	7.0	2	60% LIMESTONE a/a (Recycled?) 40%SILTSTONE :a/a Tr glauc.	
312	10.7	2	60% LIMESTONE a/a (Recycled?) 40%SILTSTONE :a/a Tr glauc.	
315	4.3	2	80% LIMESTONE a/a (Recycled?) 20%SILTSTONE :a/a Tr glauc. Comm. tr pyrite Tr blk carb spx.	
318	7	2	50% LIMESTONE a/a (Recycled?) 50%SILTSTONE :a/a Tr glauc.Tr pyr	
321	4	3	50% LIMESTONE a/a (Recycled?) 50%SILTSTONE :a/a Tr glauc. Tr pyr	
324	5.3	3	50% LIMESTONE a/a (Recycled?) 50%SILTSTONE :a/a Tr glauc. Tr pyr Tr Sst lt brn, vfg, w/s, arg, calc soft	
327	4.7	2	60% LIMESTONE a/a (Recycled?) 35% SILTSTONE: a/a 5% SST lt brn, vfg, w/s,calc, carb. soft. Tr glauc.	
330	9.0	2	70% LIMESTONE a/a (Recycled?) 30% SILTSTONE: a/a Comm. Tr glauc.Tr SST a/a	
333	11.7	2	70% LIMESTONE a/a (Recycled?) 30% SILTSTONE: a/a Comm. Tr glauc.Tr SST a/a	
336	10.3	3	70% LIMESTONE a/a (Recycled?) 30% SILTSTONE :a/a commonTr glauconite ,Tr SST a/a	
339	6.6	3	60% LIMESTONE a/a (Recycled?) 30% SILTSTONE: a/a Comm.. 10% SST lt brn, grn, vfg, w/s, arg, calc. soft Tr glauc	
342	7	3	60% LIMESTONE a/a (Recycled?) 30% SILTSTONE: a/a Comm.. 10% SST lt brn, grn, vfg, w/s, arg, calc. soft Tr glauc	
			At 342 m switched to continuous coring.	

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Appendix 5

Core Descriptions / Gas Log

Appendix 5

BUNGA CREEK-1 CORE DESCRIPTIONS /GAS LOG

Depth	Core Description	Gas
342-342.72	SANDSTONE: lt brn,gy brn, vf-fg v. silty w/sort, with qtz, blk carb spx, fine mica in a soft, calc.matx. Comm tr glauc. Rare small shell frags. Tight. No fluor.	1
342.72 - 342.9	SANDSTONE a/a with a hard calc matx.	1
342.9 - 342.95	SANDSTONE: lt brn,gy brn, vf-fg v. silty w/sort, with qtz, blk carb spx, fine mica in a soft, calc.matx. Rare fossil mollusc shell frags. Tight. No fluor.	
342.95 - 343.55	LOST CORE (0.60 m)	
343.55 - 345.5	SANDSTONE: a/a No fluor.	2
345.5 - 345.8	SANDSTONE a/a with a hard calc matx. No fluor.	3
345.8 - 350.3	SANDSTONE: lt brn,gy brn, vf-fg v. silty w/sort, with qtz, blk carb spx, fine mica in a soft, calc.matx. Rare shell frags. Tight. No fluor. Occ fossil mollusc fossils throughout Pyrite nodule circa 349.6	2
350.3 - 350.4	SANDSTONE a/a with a hard calc matx. Near vertical fracture throughout with abdt pyrite mineralisation.No fluor.	2
350.4 – 357.75	SANDSTONE: lt brn,gy brn, vf-fg v. silty w/sort, with qtz, blk carb spx, fine mica in a soft, calc.matx. Occ fossil mollusc fossils throughout. Tight. No fluor. Pyrite nodule circa 349.6	2
357.75 – 358.9	SANDSTONE: gy-grn, subrded, fg, w/sort, soft, slty, calc with qtz, carb spx, comm. tr pyrite, comm. tr glauc in a calc slty matx. Common mollusc frags. Tight. No fluor. except min fl. from shells.	2
358.9 - 359	SANDSTONE : a/a but lt brn, hard with strong calc cement. No fl.	1
359 – 360.5	SANDSTONE: gy-grn, subrded, fg, w/sort, soft, slty, calc with qtz, carb spx, comm. tr pyrite, comm tr glauc in a calc slty matx. Common mollusc frags. Tight. No fluor. Abdt shells 2 362.2	1
360.5-360.13	SANDSTONE : a/a gy-grn, v.hard with strong calc cement. No fl.	1
360.13 – 363.48	SANDSTONE: gy-grn, subrded, f-mg, w/sort, firm, slty, calc with qtz, carb spx, comm. tr pyrite, comm tr glauc in a sl. calc slty matx. Common mollusc frags. Tight. No fluor.	1
363.48 – 364.28	SANDSTONE: a/a harder, stronger calc cement in part, common mollusc fragments. Occ cg subrded qtz.	
364.28- 364.45	Granodiorite	

PE651031

This is an enclosure indicator page.
The enclosure PE651031 is enclosed within the container PE913649 at this location in this document.

The enclosure PE651031 has the following characteristics:

ITEM_BARCODE = PE651031
CONTAINER_BARCODE = PE913649
NAME = Bunga Creek-1 Gamma-CCL Well Log
BASIN = GIPPSLAND
ONSHORE? = Y
DATA_TYPE = WELL
DATA_SUB_TYPE = WELL_LOG
DESCRIPTION = Bunga Creek-1 Gamma-CCL Well Log, Scale 1"=20m, (Encl. from Bunga Creek-1 Stratigraphic Core Hole Well Completion Report), Lakes Oil N.L., 24th November 2002.
REMARKS =
DATE_WRITTEN = 24-NOV-2002
DATE_PROCESSED =
DATE_RECEIVED =
RECEIVED_FROM = Lakes Oil N.L.
WELL_NAME = Bunga Creek-1
CONTRACTOR =
AUTHOR =
ORIGINATOR = Lakes Oil N.L.
TOP_DEPTH = 0
BOTTOM_DEPTH = 300
ROW_CREATED_BY = FH11_SW

(Inserted by DNRE - Vic Govt Mines Dept)

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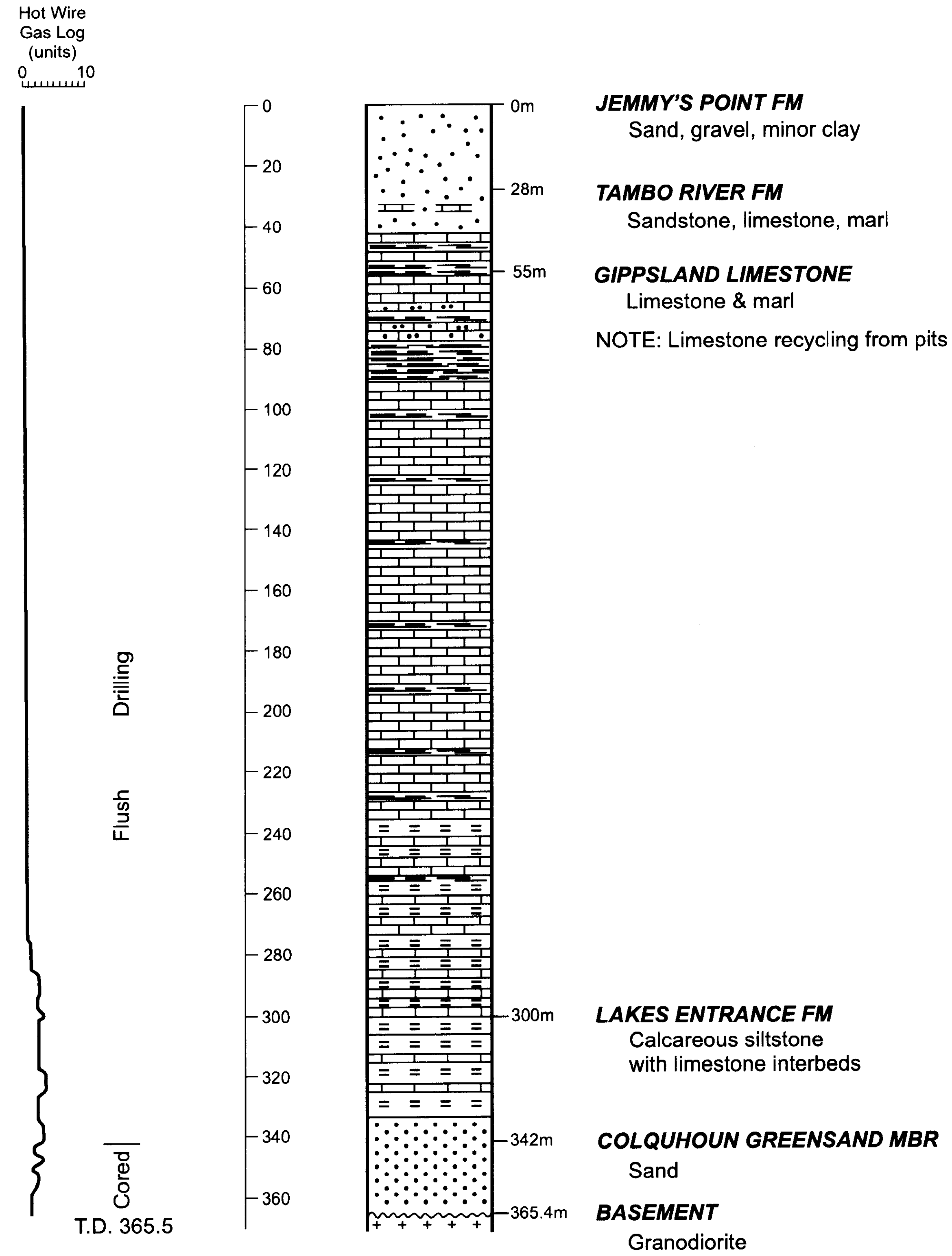
LAKES OIL N.L.

PEP 155

BUNGA CREEK - 1



Scale 1:2,000

STRIP LOG & GAS LOG

Enclosure 2