909989 001

PAGE 1 OF 60 (5 COLDUR PAGES)





#### **PATTIES PIES-1**

### PEP 156 ONSHORE GIPPSLAND BASIN, VICTORIA

#### WELL COMPLETION REPORT

By J.N. Mulready

October 2003

LAKES OIL N.L. Level 11 500 Collins Street Melbourne 3000



# LAKES OIL N.L.

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

# **PATTIES PIES-1**

# PEP 156 ONSHORE GIPPSLAND BASIN, VICTORIA

# WELL COMPLETION REPORT

by J.N. Mulready

October 2003

LAKES OIL N.L. Level 11 500 Collins Street Melbourne 3000

#### TABLE OF CONTENTS

- 1.0 SUMMARY
- 2.0 WELL HISTORY
  - 2.1 GENERAL DATA
  - 2.2. RIG DATA
  - 2.3 DRILLING DATA
  - 2.4 LOGGING AND TESTING
- 3.0 GEOLOGY
  - 3.1 REGIONAL GEOLOGY
  - 3.2 TECTONIC HISTORY
  - 3.3 STRUCTURAL ELEMENTS
  - 3.4 PEP 156
  - 3.5 EXPLORATION HISTORY
  - 3.6 REASONS FOR DRILLING
  - 3.7 STRATIGRAPHIC PROGNOSIS
  - 3.8 STRATIGRAPHY
  - 3.9 HYDROCARBON SHOWS
- 4.0 DISCUSSION AND CONCLUSIONS
- 5.0 COMPLETION

#### TABLE OF ATTACHMENTS

#### LIST OF FIGURES

- 1 Locality Map for Patties Pies-1
- 2 Drilling Time/Depth Curve
- 3 Gippsland Basin Stratigraphic Table
- 4 Time Structure Map Patties Pies Prospect
- 5 Seismic Line GOR88A-05 through Patties Pies prospect

#### LIST OF TABLES

- I Stratigrahy Gippsland Basin
- II Stratigraphic Table for Patties Pies-1

#### **LIST OF APPENDICES**

- 1 Cuttings Descriptions
- 2 Bit Record
- 3 Drilling Fluid Report
- 4 Well Location Survey

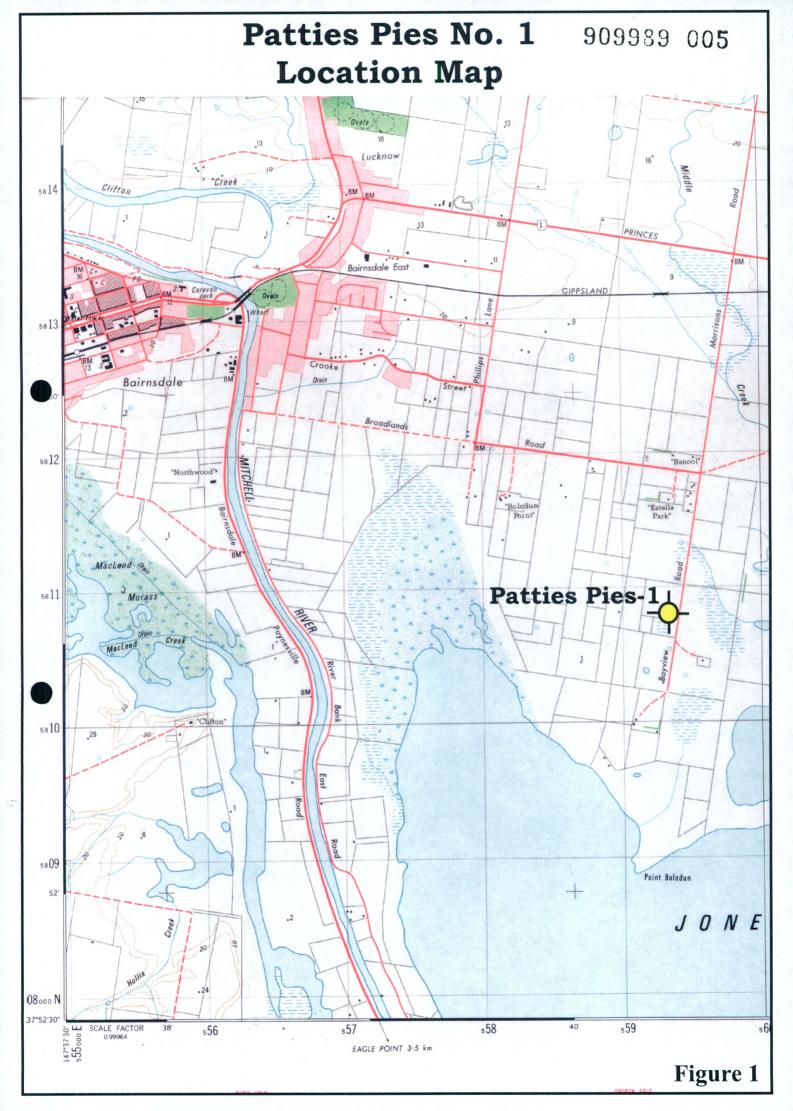
LIST OF ENCLOSURES (Pocket)	SCALE

Enclosure 1	Composite Well Log	1:500
Enclosure 2	Schlumberger Well Logs	1:500
		1:200

Suite 1. (@ TD)

Type Log
HALS-BHC-TLD-MCFL-CALICNL-GR-SP
HALS-Sonic-PEX

Interval (m)
439-59.4m
(GR to Surface)



#### 1.0 SUMMARY

Patties Pies-1, the second well to be drilled by Lakes Oil in PEP 156, was located approximately 5 kilometres southeast of Bairnsdale, the closest wells being Paynesville-1, 7 km to the south, and Fairhope-1 10 km to the southwest. Two local water bores were located in the vicinity of the well, each producing significant amounts of associated methane gas with very minor amounts of  $H_2S$ .

Patties Pies-1 was drilled to assess the hydrocarbon potential of a horst block identified on line GOR88A-05 at a location significantly higher structurally than the nearby water wells. The well stratigraphic intersections were close to prediction, but no significant gas shows were encountered. A 60 m weathered volcanic section was encountered within the Latrobe Fm section, however, which had not been anticipated..

Patties Pies-1 spudded on 14 March 2003. 311 mm hole was drilled to 10 m and a 244 mm conductor pipe was then set at that depth. 216 mm hole was then drilled to 26 m, at which stage it became necessary to cease drilling and set a cement plug to overcome leakage of drilling mud around the conductor pipe.

The well then drilled ahead to 100 m, at which stage it was planned to run 178 mm casing. In the event it was not possible to run the casing beyond 83.34 m due to tight hole. The 178 mm casing was then cemented in place at this depth. After installing and testing BOPs the well drilled ahead in 156 mm hole to its total depth of 441 m., which was reached on 22 March 2003.

As a result of the lack of shows no testing was undertaken. Electric logs confirmed the conclusion that the well was dry, and Patties Pies-1 was subsequently plugged and abandoned and the rig released at 1500 hrs on 24 March 2003.

#### 2.0 **WELL HISTORY**

#### 2.1 **GENERAL DATA**

Well Name and Number:

**PATTIES PIES No.1** 

Location:

Latitude:

37°51'4.2"

Longitude: 147°40'27.5"E

Easting:

487 829.35

Northing: Seismic:

5729 515.75

VP 135 Line GOR 88A-05

Bairnsdale SS

Elevations:

G.L. 2.2 m A.S.L.

K.B. 3.7 m A.S.L.

Petroleum Tenement:

**PEP 156** 

Name of Operator:

LAKES OIL N.L.

A.C.N. 004 247 214

Level 11

500 Collins Street

MELBOURNE VICTORIA 3000

Other Participants:

None

Date Drilling Commenced:

14 March 2003

Date Drilling Completed:

22 March 2003

Date Rig Released:

24 March 2003

Drilling Time to T.D.:

9 days

Total Depth:

Driller: 441 m.

Logger: 441.4 m.

Status:

Left for conversion by Landowner to a water

well, producing from the Gippsland

Limestone.

#### 2.2 RIG DATA

Drilling Contractor Sides Engineering Pty Ltd

25 Garden Road, Clayton, Vic. 3168

Rig Bourne 2000THD

Rig Carrier Twin Steer Tri-axle

Weight Indicator Hydraulic Pressure

Power Cummins - Truck Engine

Rotary Top Drive

Blocks Not applicable

Pumps Clarke 5.5X10 3 Cylinder Duplex

Mud mixing Gardner Denver Duplex

Sump pump Not applicable

Transfer Pump Wreckair - Worm Drive

Tubulars 3.5" X 13.30 D.P.

Fishing Tools None on Site

Handling Tools Rented Tasman

Stabilizer 12.25", 8.5", 6"

Spare Parts As reasonably required to conduct operations

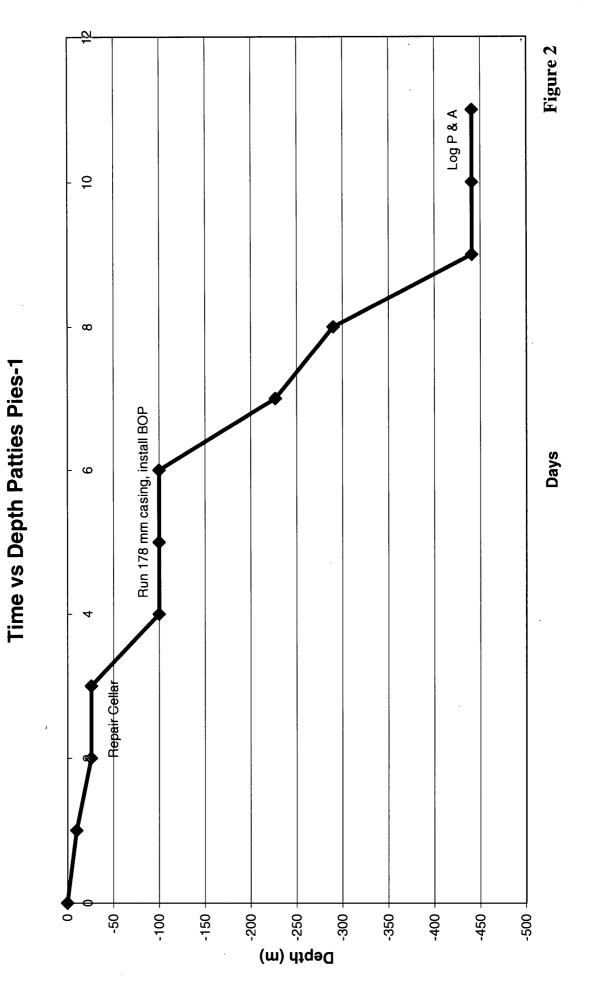
for programmed well

Personnel Driller plus 4 crew

Drilling Hours Rig Operated Daylight Hours Only with the

exception of the night of the 1st of March 2003, when a second crew was on hand prior

to drilling the Latrobe section and logging.



#### 2.3 DRILLING DATA

The following is the daily operations summary for Patties Pies-1. It has been compiled from the tour sheets and daily drilling reports. Onsite drilling supervision for Lakes Oil N.L. was provided by Drilling consultant G. Nicot. Further details are provided in the time/depth curve (Figure 2).

The depths in the following summary are those reached at 2400 hours on each day with the operations given for the previous 24 hour period.

DATE	OPERATIONS
12.3.03	Rig arrived on site
13.3.03	Rigging up
14.3.03	Completed rigging up. Drilled & reamed 311 mm hole to 10 m
	Ran & set 244 mm conductor pipe. Rigged up, mixed mud.
15.3.03	Finished mixing mud. Drilled to 26 m. Partial mud losses and mud return
	outside conductor casing. Cleaned out cellar and dug out area around
	conductor. Spotted 14 sax plug. Wait on cement.
16.3.03	Commenced circulation – mud return observed inside & outside cellar.
	Spotted 1.5 cubic m. of grout inside cellar. Wait on cement.
17.3.03	Drilled 216 mm hole from 26 m to 100m (designated casing point). Still
	some leakage. Ran wiper trip to 60 m. Ran 178 mm casing to 72 m,
	obstruction encountered. Continued leakage in cellar. Wait on daylight.
18.3.03	Pumped out cellar and washed and pushed 178 mm casing to 84.34 m.
	Cemented casing using 2.1 c.m of slurry. Displaced with mud and bumped
	plug to 3155 kpa for 5 min. Wait on cement.
19.3.03	Nipple up BOP, install flare line
20.3.03	Test BOP. RIH to 74 m and drilled out casing shoe. Reamed & washed to
	100m.
	Drilled 156 mm hole to 102 m. Repaired swivel and mud pump. Drilled to
	200 m. Repaired mud pump. Drilled to 226.6 m. Circulated & pulled 10
21.2.02	singles.
21.3.03	Repaired mud pump. RIH and drilled to 290 m. Circulated and conducted
	carbide test whilst waiting to drill Latrobe Fm during daylight with
22.2.02	Schlumberger on site, (as per drilling plan). Pulled back 10 singles.
22.3.03	Circulated & conditioned mud, drilled tp 441 m (TD). Ran wiper trip to
	280 m.
	Second crew on site for night shift. Circulated hole cean. POOH to log.
23.3.03	Held safety meeting proir to running wireline logs. Logging.  Ran GR-SONIC-CALIPER-NEUTRON/DENSITY-DLL-SP logs. Rig
23.3.03	Ran GR-SONIC-CALIPER-NEUTRON/DENSITY-DLL-SP logs. Rig down Schlumberger. Wait on daylight. RIH to 325 m, set Plug#1 from 325-
	265 m.Pulled back to 167 m & waited on cement delivery. Disconnected
	flare line and commenced rigging down.
24.3.03	Wait on cement delivery. Spotted cement plug #2 from 165-110 m. Well
27.3.03	left open as a water producer. A plugged short joint of 178 mm casing was
	connected to the surface casing, rising approximately 1 m above ground
	level.
	Laid down remaining drill pipe, removed BOPs and braidenhead, installed
	water riser and completed rigging down. Rig released @ 1500 hrs.

#### **Hole Sizes and Depths:**

12.25" / 311 mm. to 10 m. 8.5" / 216 mm. to 84.34 m. 6.125" / 156 mm. to Total Depth (441 m)

#### **Casing and Cementing:**

#### Surface

Size -

9.625" / 244 mm.

Weight -

64.9kg/m.

Grade -

K55

Shoe Setting Depth -

10 m..

#### Intermediate

Size -

7" / 178mm.

Weight -

34.2kg/m.

Grade -

K55

Shoe Setting Depth -

84.34 m.

Quantity of Cement -

2.1 cubic metres "A".

#### **Deviation Surveys:**

Nil

#### **Drilling Fluid:**

Spud - 100 m. (a)

Type -

Gel Spud Mud

Additives - Ausgel, Soda ash, Caustic, Enerseal-F.

(b) 100-441 m. Type -

KCl -Polymer

Additives -

KCl Tech, Auspac LV, Auspac-R, Caustic,

Soda Ash, Defoamer.

See also Drilling Fluid Report Appendix 3 for greater detail.

#### Water Supply:

Water was trucked by tanker from Sale.

#### **Perforation Record:**

None

#### Plugging and Cementing:

Plug 1. 325 -265 m.

Plug 2. 165-110 m.

Page 6

#### 2.4 LOGGING AND TESTING

#### Wellsite Geologist:

J.Mulready

#### **Mudlogging:**

Lakes' own hot-wire gas detector was used to monitor ditch gas, and was supervised by D.Sisely

A mudlog recording lithology, penetration rate, mud gas and other data was prepared and is an enclosure to this report.

#### **Ditch Cutting Samples:**

Cuttings were collected at 10m. intervals from surface to 100m. and then at 3m. intervals to 441 m. (T.D). The cuttings samples and sets were:

Sample Type	No. Sets
Unwashed	1 (DPI)
Samplex Trays	1 (Operator)

#### **Coring:**

None.

#### **Sidewall Cores:**

None.

#### Testing:

None.

#### Wireline Logs:

One suite of logs were run by Schlumberger.

Run #1

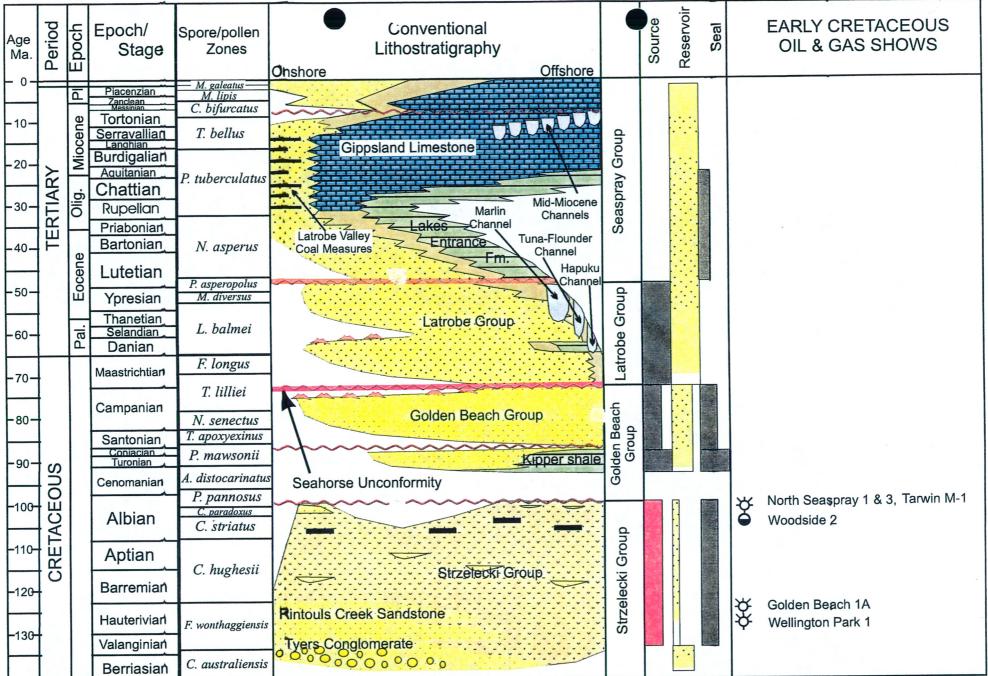
Type Log Interval (m) HALS-BHC-TLD-MCFL-CALI-CNL-439-83 m. **GR-SP** (GR to Surface)

#### **Temperature Surveys:**

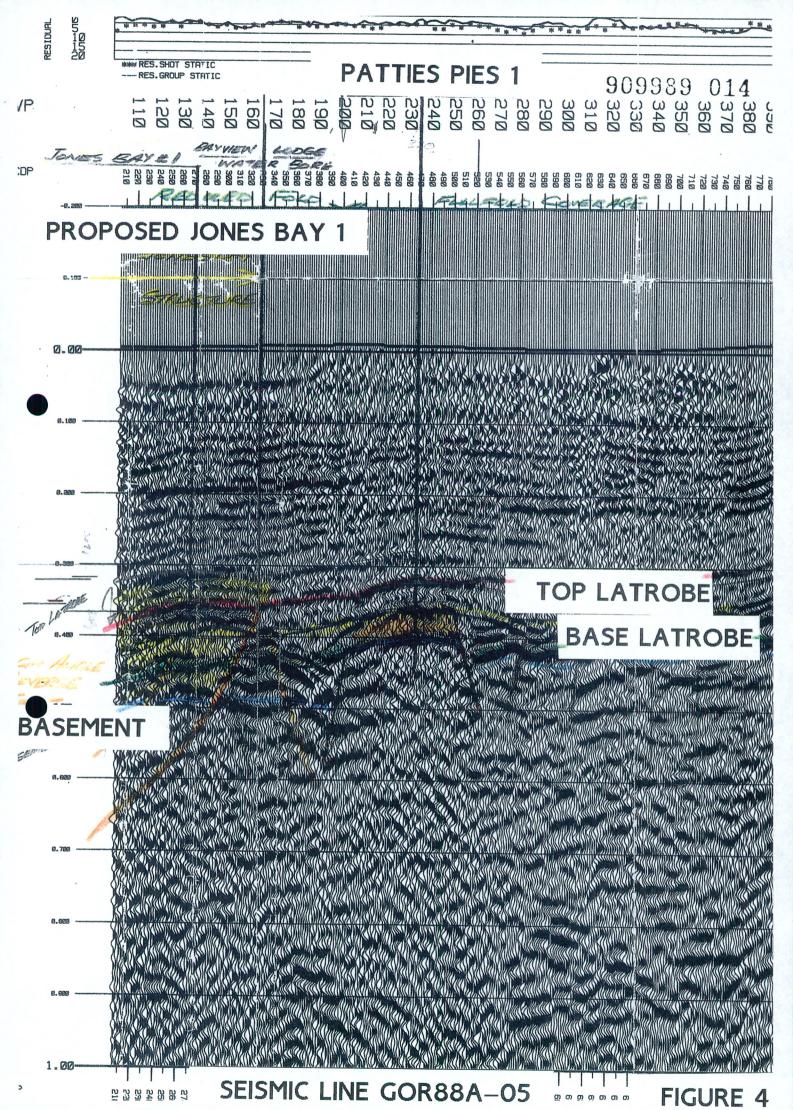
Wireline logging recorded a maximum bottom hole temperature of 42 °C

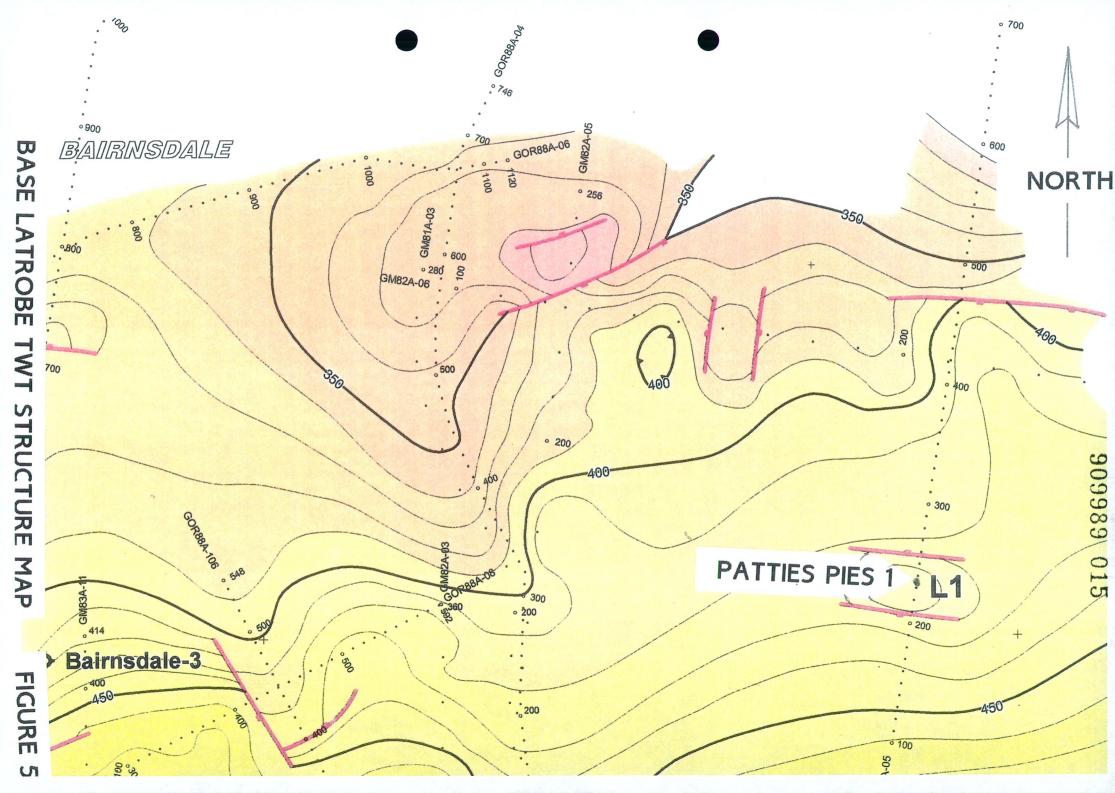
#### **Velocity Survey:**

None









#### 3.0 GEOLOGY

#### 3.1 REGIONAL GEOLOGY

The Gippsland Basin is an Early Cretaceous to Cainozoic Basin occupying approximately 46,000km<sup>2</sup> 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 lying 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, at the top of the Latrobe Group coarse clastics. However a lack of understanding of the stratigraphy and the mechanism of hydrocarbon generation, migration and timing of structures, along with poor quality of the seismic and well log data, resulted in a downgrading of the hydrocarbon potential of the onshore area.

#### 3.2 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.

#### 3.3 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) <u>Latrobe Valley Depression:</u> 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) <u>Lake Wellington Depression</u>: 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) <u>Baragwanath Anticline</u>: 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) <u>Seaspray Depression:</u> 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) <u>South Terrace</u>: 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.

#### **3.4 PERMIT PEP 156**

PEP136 was granted to Lakes in June 1997. During June 2000, following changes to the onshore legislation, the permit was granted for a further five year period, and the permit name changed to PEP156.

PEP156 covers an area of 3185 sq km within the onshore Gippsland Basin. Virtually all the permit is within the Northern Platform.

#### 3.5 EXPLORATION HISTORY

Petroleum exploration in the permit commenced in the early 1960's and continued into the early 1970's, conducted mainly by Woodside and Arco. This exploration originally had as its main objective the Strzelecki Group, with emphasis moving to the Latrobe Group later in this period.

In 1985 Ampol et al drilled three exploration wells through the Latrobe Formation into metamorphic basement - Fairhope-1, Comley-1 and Paynesville-1.in all three wells the Latrobe section proved to be water saturated.

In 1990 Mosaic et al drilled a structural stratigraphic well (Avon-1) to test an Intra-Latrobe sand, which also proved to be water filled.

Page 9

In 1997 Lakes drilled Investigator-1 (as well as Baudin-1 in the adjacent PEP 135) to test intra Latrobe plays. Neither of these wells produced significant hydrocarbon shows.

#### 3.6 REASONS FOR DRILLING

It has been common knowledge for some time that water wells in the vicinity of Bairnsdale have produced significant amounts of gas in association with the water. In particular the well located on the Foard property approximately 2 km northwest of Patties Pies-1, and the bore on BAY View Lodge, approximately 500 m from Patties Pies-1.

#### 3.7 STRATIGRAPHIC PROGNOSIS

In the absence of any logged wells in the vicinity, the stratigraphic prognosis was prepared from formation picks on Line GOR88A-05 and the knowledge that the nearby water bore on Walker's Bay View property was producing from near the top of the Latrobe Fm at around 1060 ft

A comparison between prognosed and actual formation tops is given below.

FORMATION	Prognosed (mKB)	Actual (mKB)	Difference (m) H /L
Tertiary Gravels	surface	Surface	0
Gippsland Limestone	85	35	50 H
Lakes Entrance	325	250	75 H
- Greensand member	Not prognosed	271 m	
Latrobe Group	300	297	3 H
Volcanics	Not prognosed	357	
Latrobe sands below volcanics	Not prognosed	412	
Basement	420	428	8 L
TD		441	

#### 3.8 STRATIGRAPHY

#### **TERTIARY GRAVELS**

Surface to 35 metres. Thickness 33.5 m.

Clav:

Red, red brown, grey, soft, sticky below 45 cm soil layer.

Sandstone:

Red brown, very fine grained, well sorted, subrounded,

argillaceous.

#### **GIPPSLAND LIMESTONE**

35-250 metres Thickness: 215 metres

Limestone:

Light grey, grey brown calcarenite consisting of unconsolidated fine to coarse grained, with occasional very coarse grained and pebble sized shell fragments, predominantly bryozoa & corals, gasteropods, bivalves & occasional forams. Good porosity.

Traces of glauconite towards base. Interbedded with

Siltstone:

(calcisiltite) light grey, occasionally white, calcareous speckled

in part due to dark indeterminate inclusions, friable,

sl.glauconitic, very sandy, grades to

Sandstone:

light grey, occasionally white, very fine grained, subrounded,

calcareous, argillaceous, very silty, grades to calcisiltite as

above.

Some interbeds near base of unit of

Marl:

grey green, soft, dispersive, slightly micaceous.

#### **LAKES ENTRANCE FORMATION**

250-300 metres. Thickness 50 metres. 250-273 m.

Marl:

grey green, soft, dispersive, slightly micaceous

273-300 m.

Glauconitic Sandstone: grey, grey

grey, grey brown, firm, consisting of well sorted very fine grained rounded quartz, with common shell fossils, glauconite, mica and occasional carbonaceous? specks in a calcareous,

slightly argillaceous matrix. Tight, no shows

Minor interbeds of limestone as above near the base of this unit.

#### **LATROBE GROUP**

297-429 m. Thickness 132 metres

300-357 m.

Sand:

Light grey, consisting of unconsolidated clear and rare grey sub-

rounded to rounded fine to coarse to very coarse grained and gravel sized quartz grains. Excellent porosity, no shows.

Traces of coal, black-brown, soft.

Very common pyrite nodules over the interval 321-345 m. These produce violent fluctuations in the gamma ray log over

this interval.

357-412 m.

Weathered basalt:

Claystone with minor interbedded Sandstone (caved?)

Clay, lt brown, pink (Fe stained) in part, soft, dispersive, slightly

calcerous.

Sandstone: as above Common Fe staining

412-428 m

Sand:

Light grey, consisting of unconsolidated clear and rare grey sub-

rounded to rounded fine to coarse grained quartz grains.

Common shell fragments & calcite

Excellent porosity, no shows. Common limestone cavings.

# **BASEMENT:** 428M -TD (441 m.)

**Sandstone:** 

Grey green, very fine grained, well sorted, slightly

micaceous, siliceous Tight. No shows.

#### 3.9 HYDROCARBON SHOWS

No significant gas shows or fluorescence were recorded in the well.

The Latrobe Group primary target had low gas values and no fluorescence in the sands.

#### 4.0 DISCUSSION AND CONCLUSIONS

Patties Pies-1 achieved it's objective of appraising the hydrocarbon potential of a horst block identified on Line GOR88A-05 from Ocean Resource's 1988 Bairnsdale Seismic Survey.

The primary target, the Latrobe Group, was expected to be intersected structurally higher than the producing reservoirs in the nearby Bay View Lodge water well, estimated as about 337 m subsea. This proved to be the case, as Patties Pies-1 intersected the Latrobe group at just above 300 m subsea. The sands had very good reservoir quality, but no significant hydrocarbon shows were encountered.

A weathered lava flow, which subcrops on the western margin of the basin, wasn't prognosed at the location, but proved to be 51 m thick, effectively bisecting the Latrobe sedimentary section. After running wireline logs, as no significant hydrocarbons had been observed, the well was plugged and left for the Landowner to complete as a water well from the Gippsland Limestone.

There is as yet no satisfactory answer as to why no gas was encountered at a structurally higher location than the nearby Bay View Lodge bore, and the lack of adequate seismic and well control makes it difficult to adequately explore the possibilities.

Lakes is currently considering drilling a second well on the southern (downthrown) side of the horst in order to more fully evaluate the potential for commercial development of gas in the Bairnsdale vicinity.

#### 5.0 COMPLETION

None – the well was plugged above the Latrobe Group aquifers and is to be converted by the landowner to a water well producing for stock & domestic purposes from the Gippsland Limestone.

#### **Table II. PATTIES PIES-1**

#### STRATIGRAPHIC TABLE KB= 3.7 m. GL=2.2 m.

AGE	FORMATION	Depth	Depth	Thickness
		(mKB))	(mSS))	(m))
Tertiary Gravels		Surface	2.2	33.5
TERTIARY – Miocene-Oligocene	Gippsland Limestone	35	-31	215
TERTIARY – Oligocene	Lakes Entrance	250	246	47
	Glauconitic Sand Mbr.	(271)	(-267)	(26)
TERTIARY – E Oligocene-Eocene	Latrobe Group	297	-293	131
	Volcanics	(357)	(-353)	(65)
	Latrobe Group Sands	(412)	(-408)	(16)
	(cont.)			
PALAEOZOIC Basement		428	-424	
	TD	441	-437	

APPENDIX 1

**CUTTINGS DESCRIPTIONS** 

PATTIES PIES-1 CUTTINGS DESCRIPTIONS Wellsite Geologist: J. Mulready. Well spudded 3.03

	200		MOHAINOSIN
DEFIH	Min/m	Gas Units	
0-10			Clay: Red, red brn, soft. sticky below 45 cm soil layer
			Sstone: rd bm, vfg, w. sorted, srded, arg.
10-20			Clay: gy, soft, puggy.
20-30			Clay: a/a
30-40			Limestone: orge brn, cons of shell frags tr coal, (Poor sample)
40-50	-		No returns
99-09			No returns
02-09			No returns
70-80			No returns
06-08			No returns
90-100			No returns
100-102	1	0	70% Limestone: (calcirudite) Lt gy, gy brn f-cg shall frags, pred. bryozoa, coral, occ. forams, gastrepods and
			bivalves. Good porosity.
			30% Sstone: gy vfg srded calc arg slty sst grades to calc sltst. Tight
			Tr glauc.
102-105		0	70% Limestone: a/a
			305 Sst/Sltst: a/a
			Ir glauc a/a
105-108	1.1	0	70% Limestone: a/a
			30% Sst/Sltst: a/a
		•	Tr glauc a/a
108-111	2	0	80% Limestone: a/a vcg-pebbly frags common
			20% Sst/Sltst: a/a incorporates occ echinoid spines.
			Tr glauc a/a
111-114		0	70% Limestone: a/a
ļ			30% Sst/Sltst: It gy occ wh, 'speckled' appearance from dark inclusions, vfg srded calc sl glauc. friable
114-117	1	0	50% Limestone: a/a

117-120 120-123 123-126 126-129 129-132 132-135	1 1 1.7 1 8.		50% Sst/Sltst: a/a         50% Limestone: a/a         50% St/Sltst: a/a         40% Limestone: a/a         60% Sst/Sltst: a/a         20% Limestone: a/a         80% Sst/Sltst: a/a         50% Limestone: a/a         80% Sst/Sltst: a/a         50% Limestone: a/a         50% Limestone: a/a         60% Limestone: a/a         40% Sst/Sltst: a/a         40% Sst/Sltst: a/a
135-138 138-141 141-144 144-147		0 0 0	60% Limestone: a/a 40% Sst/Sltst: a/a 60% Limestone: a/a 40% Sst/Sltst: a/a 90% Limestone: a/a 10% Sst/Sltst: a/a 90% Limestone: a/a
147-150 147-150 150-153 153-156	1.1 1.3		10% Sst/Sltst: a/a Limestone: a/a 90% Limestone: a/a 10% Sst/Sltst: a/a 90% Limestone: a/a 10% Sst/Sltst: a/a 10% Sst/Sltst: a/a
156-159 159-162 162-165 165-168		0 0 0	Limestone: a/a  Limestone: a/a  80% Limestone: a/a  20% Sst/Sltst: a/a  90% Limestone: a/a  10% Sst/Sltst: a/a

80% Limestone: a/a 20% Sst/Sltst: a/a	80% Limestone: a/a 20% Sst/Sltst: a/a	Limestone: a/a	80% Limestone: a/a 20% Sst/Sltst: a/a	90% Limestone: a/a 10% Sst/Sltst: a/a	90% Limestone: a/a 10% Sst/Sltst: a/a	80% Limestone: a/a 20% Sst/Sltst: a/a	90% Limestone: a/a 10% Sst/Sltst: a/a	70% Limestone: a/a 30% Sltstone: grn-gy, soft, calc	70% Limestone: a/a 30% Sltstone: a/a	<b>Limestone</b> : It gy, wh, cons pred of f-mg shell frags (pred. bryozoa and coral) and wh calcite. Tr glauc, Tr gy sltst a/a	50% Limestone: a/a 50% Sltstone: It gy with blk speckles, calc. soft	50% Limestone: a/a 50% Sltstone: It gy with blk speckles, calc. soft	Limestone: a/a some evidence of marl interbeds – prob. passing into suspension in mud	Limestone: a/a	Limestone: a/a	Limestone: a/a	Limestone: a/a		Limestone: a/a Tr glauc Tr sltst a/a
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			2	2	2.	<del>-</del> :	<b>-</b> :		<u></u>	l-:	9:	.1	7.	.1	.1	9:	.1	0:	.3
	<del></del>	7	) 2.2	3 2.2	5 2.2	9 2.1	2 2.1	5 2.1	3 2.1	1 2.1	1 2.6	7 2.1	1.7	3 1.1	5 2.1	9 2.6	2 2.1	5   2.0	3 1.3
168-171	171-174	174-177	177-180	180-183	183-186	186-189	189-192	192-195	195-198	198-201	201-204	204-207	207-210	210-213	213-216	216-219	219-222	222-225	225-228

200 001	1 1		T : fo T. alone T. altet of a constitue to moral
167-977	]./	ρ	Limestone: a/a 11 glauc 11 stist a/a grading to mail
231-234	1.1	0	50% Limestone: a/a
			50% Marl: gy grn, soft, dispersive, sl mic.
234-237	2.7	0	90% Marl: a/a
			10% Limestone: a/a
237-240	2.3	0	90% <b>Marl</b> : a/a
			10% Limestone: a/a
240-243	1.7	0	Limestone: a/a cemented in par
243-246	4.7	0	Limestone: (calcarenite) Cons of vfg shell frags occ glauc in a calc matx tr mica
246-249	1	0	80% Marl: gy grn, soft, dispersive, sl mic.
			20% Limestone: a/a
249-252	1	0	Marl: gy grn, soft, dispersive, sl mic.
252-255	1	0	Marl: a/a
255-258	1	0	Marl: a/a
258-261	1	0	Marl: a/a
261-264	8.0	0	Marl: a/a
264-267	1	0	Marl: a/a
267-270	2	0	Marl: a/a
270-273	2.1	0	Marl: a/a
273-276	1	0	70% Glauconitic Sstone: gy, gy brn, firm, cons. of w.sorted vfg rded qtz, shell frags, glauc, occ carb? spx
			mica in a white calc sl arg matx
			30% <b>Marl</b> : a/a
			Comm Tr lst a/a
276-279	1	0	Glauconitic Sstone: a/a Tr Lst a/a
279-282	1	0	Glauconitic Sstone: a/a Tr Lst a/a
282-285	1	0	Glauconitic Sstone: a/a Tr Lst a/a
288-290	_	0	Glauconitic Sstone: a/a Tr Lst a/a Tr pyr. Circ Bottoms up @ 290 m.
			Ran carbide test 136 units after 11 min
			Lag 6+ min. Mud wt 9.1 Vis 42
290-294	2.1	1	80% Glauconitic Sandstone: a/a
i			20% Limestone: a/a
294-297	1.6		Sand: Lt gy, cons. of unconsol.clr rare gy sbrded-rded c-vcg & gravel size qtz, grains. abd. pyr. No shows.

			Tr Glauconitic Sstone: a/a Top Latrobe ~295 m
297-300	1.6	1	S,
300-303	2	1	Sand: a/a No shows
303-306	2	1	Sand: a/a No shows
306-309	1	1	Sand: a/a No shows
309-312	1	0	Sand: a/a No shows
312-315	1	0	Sand: a/a common grvel size qtz No shows
315-318	1	1	Sand: a/a No shows
318-321	1.6	0	Sand: a/a No shows
321-324	1.5	1	Sand: a/a Pyrite>30% No shows
	1.1	0	Sand: a/a Pyrite 10% No shows
327-330	1.1	0	Sand: a/a Pyrite 10% No shows
330-333	2.1	1	Sand: a/a Pyrite 10% No shows
333-336	1.1	0	Sand: a/a Pyrite 10% No shows
336-339	1.1	1	Sand: a/a Pyrite 10% Tr coal bl-brn, soft No shows
339-342	1.1	0	Sand: a/a Pyrite 10% Tr coal a/a No shows
342-345	1.1	1	Sand: a/a Pyrite 10% No shows
345-348	1	1	Sand: It gy, f-mg, srded - rded, clr, gy & wh qtz and abdt mica grains. No shows.
			Comm. Tr black coal
348-351	7.0	0	Sand: Lt gy, cons. of unconsol.wh, It brn sang-srded pred m-cg qtz, grains. abd. pyr.
351-354	2	0	Sand. It are now of unamed all more are chedad relad a war & amount wine att areine and now No chouse
354-357	1.1	-	
357-360	1.6	0	Clay (weathered volcanics): It bm, soft, dispersive calc.
			Sand a/a
360-363	2.1	0	Clay(weathered volcanics): pink, otherwise a/a and Fe stained Sand, generally a/a
363-366	3	0	Clay (weathered volcanics) a/a and
			Sand: wh occ grn also Fe stained in part cg-gravel, sang-srded,
			Comm Ir corals & calc trags Ir galena Ir pyr
366-369	3	_	Clay(weathered volcanics): a/a and Sand: whalso Fe stained in part cg-gravel, sang-srded, calc in part.

			Comm Tr corals & calc frags Tr galena
369-372	5	0	Clay(weathered volcanics): a/a
372-375	2	0	Clay (weathered volcanics): a/a
375-378	3		Sand: a/a comm. Fe staining  Clav (weathered volcanics): a/a
	1	ı	Sand: a/a comm. Fe staining
378-381	3.3	0	Clay(weathered volcanics): a/a
			Sand: a/a comm. Fe staining
381-384	6.1		Clay(weathered volcanics): a/a
			Sand: a/a comm. Fe staining
384-387	3.7	0	Clay (weathered volcanics): a/a
			Sand: a/a comm. Fe staining
387-390	3.7	1	Clay (weathered volcanics): a/a It brn colour
			Sand: a/a comm. Fe staining
390-393	3.3	1	Clay (weathered volcanics): a/a lt brn colour
			Sand: a/a comm. Fe staining
393-396	3.7	1	Clay (weathered volcanics): a/a lt brn colour
			Sand: a/a comm. Fe staining
396-399	4.1		Clay (weathered volcanics): a/a lt brn colour
	1	,	
399-402	2.7	1	Clay (weathered volcanics): a/a lt brn colour Sand: a/a
402-405		_	Clay (weathered volcanics): a/a lt brn colour Sand: a/a
405-408		-	Clay (weathered volcanics): a/a lt brn colour Sand: a/a
405-408		1	Clay (weathered volcanics): a/a lt brn colour Sand: a/a
408-411		1	Clay (weathered volcanics): a/a lt brn colour Sand: a/a
411-414			Clay (weathered volcanics): a/a lt brn colour

		Sand: a/a
414-417	l	Sand: It gy,srded-rded, f-cg, unconsol. Comm Tr calc siltst and calcite No shows
417-420	-	Sand: a/a Tr pyr. Common shell frags & calc. (cvgs) No shows
420-423		Sand: a/a. Common shell frags & calc No shows
420-423	1	Sand: a/a Common shell frags & calcite. No shows
423-426	1	Sand: a/a. Common shell frags No shows
426-429		90% Sand: a/a common shell frags & calcite No shows
		10% Sandstone: gy grn vfg, w/sted, srded, sl mic, silic tight No shows
		Top basement ~429 m.
429-432	1	30% Sand: a/a No shows (cavings?)
		30% Sandstone: a/a No shows
		40% Limestone: Shell frags (esp corals and bryozoa) and calcite (cavings?)
432-435		60% Sandstone: a/a No shows
		20% Sand: a/a No shows (cavings?)
		20% Limestone: a/a (cavings?)
435-438		60% Sandstone: a/a No shows
		20% Sand: a/a No shows (cavings?)
		20% Limestone: a/a (cavings?)
438-441	1	60% Sandstone: a/a No shows
		20% Sand: a/a No shows (cavings?)
		20% Limestone: a/a (cavings?) TOTAL DEPTH

**APPENDIX 2** 

BIT RECORD

#### **BIT RECORD PATTIES PIES-1**

Bit No.	1 Rerun 1	2
Size	216 mm (8.1/2")	156 mm (6.1/8")
Type	MH 113G	Reed EHT 12
Serial No.	KT 2055	LX8853
Jets	Open	14.14.12
·		
Out (m)	100	441
In (m)	10	100
Drilled (m)	90	341
Bit hrs on bottom	7	16
Condition	2.2.IN	IN
Avg ROP (m/hr)		21.3
WOB (x 1000 DaN)	0/4	2/4
R.P.M.	60	90

APPENDIX 3

DRILLING FLUID REPORT



# DRILLING FLUIDS SUMMARY FOR LAKES OIL

# PATTIES PIE # 1 GIPPSLAND BASIN

Prepared by : Ken Pierce

Andre Skujins

March 2003

Operator :

Well Rig Lakes Oil

Patties Pie # 1 Sides Rig # 1

Spud

15th March 2003



# **CONTENTS**

- 1. Summary of Operations
- 2. Observations, Recommendations and Well Analysis
- 3. Material Costs and Consumption Analysis
- 4. Mud Materials Reconciliation
- 5. Fluid Properties Summary
- 6. Mud Volume Reconciliation
- 7. Graphs
- 8. Daily Mud Reports

Operator

Rig

Spud

Well

Lakes Oil Patties Pie # 1 Sides Rig # 1 15th March 2003



#### 1. SUMMARY OF OPERATIONS

Patties Pie # 1 was spudded in on the 15th March 2003 utilising Sides Engineering # 1 and reached a total depth of 441 m on the 22nd March 2003.

Make up water was tested on site and found the following properties:

Chlorides

300 mg/l

Hardness

300 mg/l

рΗ

7.5

**HOLE SIZE** 

216 mm (81/2") Surface Hole

MUD TYPE

Gel Spud Mud

INTERVAL

0 - 98 m

CASING

178 mm (7") @ 96 m

Prior to spudding, the conductor barrel had to be re-cemented. Quick set cement and Portland cement were placed in around the collar of the surface casing that was freshly dug out by the crew.

After dressing the shale shakers with B20 / B80 screens, priming the mud pump, installed mixing tank, spud mud was mixed into mud pits. 100 bbls of spud mud was prepared comprising 37 ppb Ausgel and Caustic Soda and Soda Ash to lower hardness and increase the pH to around 10. The relatively poor mixing facilities led to more gel than usual being used. Due to the limitations of the overall mud system. cement contamination from the re-cementing of the conductor barrel led to guite severe flocculation of the spud mud.

A 216 mm bit and BHA were made up and drilling continued to 26 m, where partial mud losses and mud flow outside of the casing occurred. The cellar was pumped out and the mud viscosity was increased in an attempt to stop mud losses, with no success.

Mixed and spotted 14 sacks of ready mix cement around the conductor and waited on cement. The same 216 mm bit was run back in and when circulation started, mud returns were observed inside the cellar and outside the concrete ring. Bulk cement was ordered and prior to pumping more cement, mud from the cellar was pumped out into mud pits.

After waiting on cement, the same bit 216 mm was run back in and drilled from 26 m to 98 m, surface casing depth. While drilling this section, partial returns were noted when between the shales. Enerseal Fine was added to assist in reducing losses. Also, as the cellar was leaking and filling up with mud, the cellar pump was used to keep up mud returns to mud pump.

Operator Well Lakes Oil
Patties Pie # 1
Sides Rig # 1

Rig Spud

15th March 2003



A wiper trip to 60 m found hole in good condition. After circulating the hole clean, tripped out of hole and prepared to run 178 mm casing. Worked tight spot in hole at 35 m while pulling out.

The 178 mm casing was run to 72 m, where an obstruction in the hole (formation limestone) was circulated while attempting to push casing down through the hole. A pump failure to empty cellar and keep up with mud returns with pit suction volume also occurred.

With new pumps installed to pump out cellar while washing down casing, the casing was further run to 90 m, the shoe depth. The hole was circulated clean and cement was pumped and displaced with mud.

**HOLE SIZE** 

156 mm (6-1/8") Production Hole

MUD TYPE

KCI Polymer

INTERVAL

98 m - 431 m (TD)

CASING

P&A

While waiting on cement, cleaned out cellar and pumping equipment. Installed Braden head, nippled up BOP's, modified choke manifold, installed HCR and kill line. Installed koomey unit, insufficient rig air volume supply to pressure up koomey unit. Wait on hired compressor, make up 156 mm (6-1/8") bit with sub and float valve.

Made up new mud as programmed. KCI was added to slowly achieve a concentration of around 2% and Pac was initially added at 0.5 ppb. After pressure testing BOP's, drilled out cement plug and shoe with gel mud. Drilling then continued from 98 m to 290 m, where the bit was pulled back to 245 m and the hole circulated for 3 hours for a possible test. The bit was then run back in to 290 m, where the hole was circulated clean. The pipe was again tripped back to 245 m, where some dilution was required to dilute the mud to maintain the mud weight below 9.0 ppg. The increase in mud weight occurred due to a solids build up in mud pits resulting from not being able to dump mud (as requested), and with the drilling of sand and not be able to run a desander, the mud system carried up to 3% sand.

It was decided to drill ahead from 290 m to 441 m (TD). Further additions of AMC Pac-R were made to keep fluid loss levels at around 8 cc's. KCl was also added to maintain the KCl concentration at around 2%. At TD, circulated the hole clean and made a wiper trip. After again circulating the hole clean, tripped out for electric logs.

Electric logs were run as programmed with the hole in good condition. Once logs were completed, ran back in to hole with open ended drill pipe to 320 m, and circulated and conditioned hole for cementing. Cement plugs were then pumped as programmed for P & A operation.

Operator :

Lakes Oil

Well

Patties Pie # 1 Sides Rig # 1

Spud

15th March 2003





## 2. OBSERVATIONS, RECOMMENDATIONS AND WELL ANALYSIS

Patties Pie # 1 was drilled to a total depth of 441 m for a total mud cost of \$5,219.50 or \$11.84 per metre. Apart from minor instances of tight hole, hole conditions were generally good and mud related problems did not occur.

## 81/2" Surface Hole

This section of hole was drilled for \$2,445.00 or \$24.05 per metre with a gel based spud mud. Over half of the interval cost comprised Enerseal (LCM), which was added due to significant down hole loses occurring. Apart from some down hole losses, the remainder of the interval was drilled problem free. Some problems were encountered when running casing, as it hung up at 72 m. However, after circulating, it was run to casing point and successfully cemented.

## 6-1/8" Production Hole

This section of hole was drilled with a KCI - Polymer mud for a mud cost of \$2,774.50 or \$8.09 per metre. Initially, the section was drilled with a lightly treated KCI Pac based fluid. As drilling continued, the KCI concentration was gradually raised to 2% and the AMC Pac-R concentration was increased also, so as to lower fluid loss to below 10 cc's and increase the yield point. By the time TD was reached, the yield point had risen to 18 lb/100ft² with the fluid loss at 8 cc's. The mud weight had also risen to 9.6 ppg, mainly due to the high sand content.

The overall mud program seems suited to this area. After drilling out the 178 mm casing, properties were <u>slowly</u> improved as drilling continued. This is a more economical approach to building a mud system, as long as hole conditions in the top part of the hole do not suffer as a result.

## **General Comments**

There were some problems in running the mud system on this rig, as compared to more conventional rigs. Mud pits were dug in the ground, solids control equipment was not always operational and mixing facilities were only just adequate. There is no suggestion that improvements or the like have to be made. Shallow holes such as this have their own set of economics and a rig such as this one is probably ideal.

Operator

Lakes Oil

Well Rig Patties Pie # 1 Sides Rig # 1

Spud

15th March 2003



The problems noted, though, are simply stated as an explanation as to how the mud was run and why, and the properties thus attained. For example, the mud weight towards TD increased to around 9.6 ppg, but a 3% sand reading (as the desander did not work) was responsible for 40% of the fluid's drilled solids.

Earlier in the well, cement contamination (due to the re-cementing of the conductor barrel) caused flocculation problems with the spud mud. A lack of agitation also caused problems with maintaining good properties, especially when the mud was standing still over night.



## 3. INTERVAL COSTS

				∞	8-1/2" Surface Hole	Hole	9-1	6-1/8" Production Hole	n Hole	Tota	Total Well Consumption	mption
			Interval :		0 - 98 m			98 m - 441 m (TD)	(TD)		0 - 441 m (TD)	(a
Product		Cost	Unit Size Used	<b>Used</b>	Cost	%Cost	<b>Dasu</b>	Cost	%Cost	Nsed	Cost	%Cost
AMC Pac-LV	\$	177.50	25 kg				-	\$177.50	6.4%	1	\$177.50	3.4%
AMC Pac-R	8	177.50	25 kg				9	\$1,065.00	38.4%	9	\$1,065.00	20.4%
Ausgel	8	13.50	25 kg	84	\$1,134.00	46.4%			-	84	\$1,134.00	21.7%
Caustic Soda	49	35.00		_	\$35.00	1.4%	2	\$70.00	2.5%	က	\$105.00	2.0%
Defoamer	8	145.00	25 It				7	\$290.00	10.5%	2	\$290.00	2.6%
Enerseal Fine	↔	52.00	25 kg	24	\$1,248.00	51.0%				24	\$1,248.00	23.9%
KCI	↔	18.00	25 kg				62	\$1,116.00	40.2%	62	\$1,116.00	21.4%
Soda Ash	↔	28.00		1	\$28.00	1.1%	7	\$56.00	2.0%	က	\$84.00	1.6%
			Totals:		\$2,445.00	100.0%		\$2,774.50	100.0%		\$5,219.50	100.0%
		Cost p	Cost per Metre :		\$24.95			\$8.09			\$11.84	



## 4. MATERIALS RECONCILIATION

Well:

Patties Pie # 1

		TOTAL	TOTAL	TRANSFER
PRODUCT	UNIT	RECEIVED	USED	BALANCE
AMC Pac-LV	25 kg	10	1	9
AMC Pac-R	25 kg	20	6	14
Ausgel	25 kg	126	84	42
Barite	25 kg	160		160
Caustic Soda	20 kg	18	2	16
Defoamer	25 lt	4	2	2
Enerseal Fine	25 kg	24	24	
KCI	25 kg	80	62	18
Lime	20 kg	2		2
Soda Ash	25 kg	4	2	2



# 5. FLUID PROPERTIES SUMMARY

Г			_	Г	-		_		_	_		_	_		_		_			_
		2	4											,	<u> </u>	·	N. C	,	7. O	
		7+4		300		0 0 0 0	00	2	400	3	400	2	400	0	200	0	5	0	3	
		5	5	300		300	700	2	500	9	200		009	2	0000	1000	20,0	10 000	200,0	
		Ĭ		030		0.30	0.30	5	080		08.0		0.30	0	0.30	1 00	2	0	3	
		ğ		0.20		0.20	0.30	5	0.50		0.50	2	0.00	0 50	0	000	7.5	0 20	9	-
		급		0.6	0	ы Э	9	;	80		χ Ο.	,	υ. Ω.	0	5	2	)	5	)	
		MBT														100		10 0	) :	
ų	3	Sand			,		1 1/2	: ;	1 1/2	,	7/1	_	_	_	-	٣.	,	~		_
Solids		Water			00		966	000	100.0	000	0.00	000	5.	0 96	)	92.5		92.5		-
		Solids	Ī		10	?	4.0	ř	_	Ļ	=	-	?	40		7.5	-	7.5		-
Filtrate	3	Cake	İ				<del>-</del>	,	_	·	-	-	•	_	. ,	_	_	<del>-</del>		_
F	_!^											S	2	2		) (X)		о Э		-
Gels	10 coc 10 min		ſ	2	ď	, ,	4	c	ი ი	C	1	m	) (	n	,	_	,	_		_
g	10 500	10 Sec	6	1	^	1 (	า	·	7	c	1	m	,	77	,	-	,	_		
	<u>a</u> >	-	y	>	9	,	4	77	<u>-</u>	14	-	<u></u>	3	رم ا	0	<u> </u>	10	<u>o</u>		
	á	>	40	2	10	7	=	7	-	-		4	,	o	7	_	1	_		
	\ Vic	2	36	3	35	72	3	43	?	43	2 ;	36	7,	4	9	2	?	7		
	Weight	160.	8	) !	8.60	07.0	5.	8 40	2	8.40		8.50	0	0.80	0 60	0.0	0 60	5	_	
	Denth		0	. ;	75	ö	3	86	) ;	86	- 60	977	200	067	441	-	320	250		
	Mud Type		Se Ce	(	<u> </u>	اع	3	Ge	. (	Gel		NCI Pac	KCI Dar	28 - 1021	KCI Pac		KC. Pac	3		
ı	Date	7 7 10 1000	15/3/7003	10/0/07	10/3/2003	17/3/2003	0000000	18/3/2003	40,000	13/3/2003	20/2/2/02	5002/5/02	21/3/2003		22/3/2003		22/3/2004			

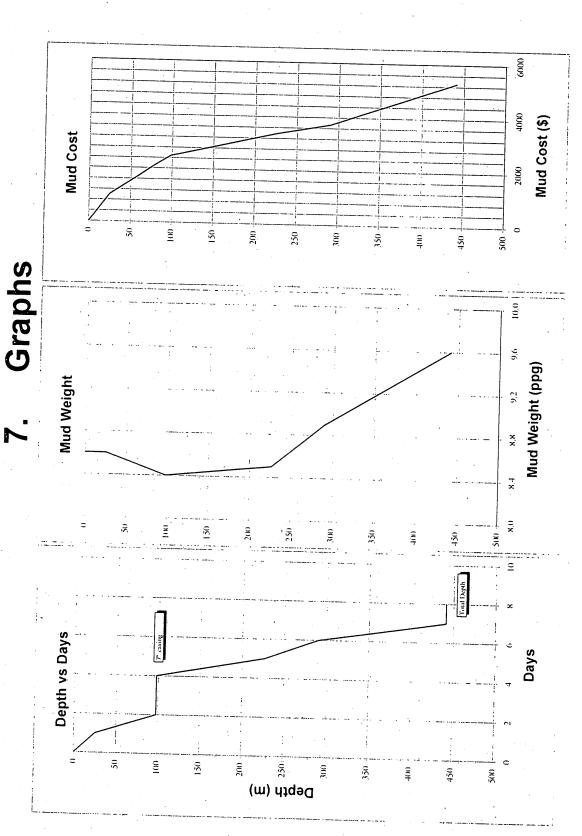


## 6. Mud Volume Analysis

		г	Т		_	_					_	_		_		_								
					Final		0	0	06	06	3 3	4	8				165	135	145	164	5 5	200		
		Summary		ë	Uisposed		0	0	10	0	35	9 (	2	9/		-	<u>ת</u>	09	40	7.1	4	,	135	<u></u>
		Sun		Dogo	+		o 	0	100	0	9	} <		160		5	2 8	<del>ુ</del>	20	06	c	37.0	2/2	_
				Initial		,	<u>-</u>	0	0	06	8	07	5			84	10.	3	135	145	164		1	
				Other					2		2	2	2	Ş		19	55	3 6	ဌ	09	2	174	T	- 00,
		Sed		Dumped Other Initial									6	7								0	T	-
)	Fluid Diggs	2000	-Down-	hole			-	U	n	ç	46		51	; 			2	ď	, ;	=		21		22
	i i		<u>\$</u>	silter									0				_					0	-	-
		٤	Ė	sander									0					-			,	-		0
				Other								1	0				_				,	,		0
	eived		14/242	water								,	0		100			2	9		200			180
0	ilt & Rec	Direct	Parisa	2	-							-	,								0	+		0
	riuld Built & Received	Sump	Premix							09	_	8	3		_				_		0	ł		3
	- 1-	Fresh	Premix   F					 8 2			_	9				 &	30	-	 		06	H		+
$\vdash$	Т	_	_	-	_	_					_	F	$\mid$	_						4	<u>.</u>	L	<del>-</del>	
			Mud Type		Gel	9	7 (	- G	e c	- و ق	Gel			0	NC Pac	KCI Pac	KCI Pac	KCIDA		NO Pac				
val			٥		0	0	25 m	25.0	E 00	000	E OS			00	= 2	756 m	290 m	441 m	441 m					
Interval		į	rrom	_	E 0	E 0			25 m					86		_	_	_	441 m	+				
	Hole	0	2715		8-1/2"	8-1/2"	8-1/2"	8-1/2"	8-1/2"	8-1/2"			_	6-1/8"		2 5	- 0/1-0	6-1/8"	6-1/8"					
		Date		12 11-100	13-Iviar-U3 8-1/2"	14-Mar-03	15-Mar-03	16-Mar-03	17-Mar-03 8-1/2"	18-Mar-03 8-1/2"	Sub Total	oub lotal		19-Mar-03  6-1/8"	20-Mar-03	21 Mar 02	- Ivial-03	22-Mar-03) (	23-Mar-03 (	Sub Total	110/4		lotal	

_		_		
	Dilution Factor	0.6 bbls/m	0.8 bbls/m	
Dilution Factors	h Difution Vol	e0 bbis	270 bbis	
Dila	g	98 m	343 m	
	81/11 Surface Hele	6-1/8" Production Unit	alou lionana	







## 8. Daily Drilling Fluids Reports

Orill	ing Flu	iids	DR		EF							Repo		1	Date:	:		13-Ma	r-2
		1101-				•		X 1	-			Rig N		1	Spud	:		15-Mai	r-2
OPER		Lakes						CO	NTRA	CTOP		Depti			to			Metres	
WELL	RT FOR NAME AN	Gerar	d Nicot						ORT					eering					
	THE AIR		D:					FIE		ruk		Peter							_
DRILLING	ASSEMBLY	JET SIZE	s Pie # 1					Wild					ATIO			STAT			_
BIT SIZE	TYPE	JET SIZE		CASIN		$\Box$	MUD	VOĽU	ME (BI	BL)		Cipp	sland			Victor	a		
RILL PIPE	TYPE	Length		ET à		"	НО	)LE	PIT			PUMP SIZ	E	RCULA		DATA RCULATIO			
SIZE PRILL PIPE	# TYPE			NT. ET @	1	1	TOTAL CI	RCULATE	NG VOL.	-+-	PUMP M	IODEL	Inche	ASSUMED E		PRESS (PS	<u>)</u>		
SIZE	1111			ROD. or NR Set @	t			IN STORA	GE		BBL/S				"	BOTTOMS UP (min)			
RILL COLLA	AR SIZE(")	Length	MUDTY	PE PE	,	<u>-                                    </u>							ST	K/MIN		TAL CIRC.			
		Mt	trs							- 1	BBL//	HN		GAL/MIN		TIME (min) ANN VEL.			
	LE FROM					M	UD PRO	PERTIE	S			MI	ID PD	DCDT		(ft/min)	DC:		
TIME	SAMPLE TA	KEN								Mud Weigh	nf		API	PERTY	SPECI	FICAT			_
DEPTH	H (ft) - (m)			N	letres					Plastic Vis				Point			PH	Filtrate	
FLOW	LINE TEMP	ERATURE			°F	T				KCI			PHP.	<del></del>			Sulphie	es	
WEIGH	EL VISCOSI	TV		ppg/S			-+							OBSERV	ATION	vs			
PLAST	IC VISCOSI	TY (sec/qt) AI TY cP/a:	PL (ĝ)	٥(			$\dashv$		$\dashv$							_			
YIELD	POINT (lb	/100ft <sup>2</sup> )		0 C					$\neg$										
GEL ST	RENGTHS	(lb/100ft <sup>2</sup> ) 10	sne/10 i						11	NSPECT I	MUD ST	OCK A	ND FO	LIIDAAUS	rr out				
PILIKA	ALL API (C	c's/30 min)						$\bot$	——						ON S	TE			
НРНТ Б	ILTRATE	(cc's/30 min) 'ā	j)	<sup>0</sup> F					М	IUD ENG	INEER A	ARRI VI	:D ON	13/3/03					
SOLDS	HICKNESS	API : HPHT	(32nd in)			_													
LIQUID	CONTENT	(% by Volum	e)				-+-		$\dashv$										
SAND C	ONTENT (	(% by Volum	ie) OIL/WA	TER			_	T											
METHY	LENE BLUE	CAPACITY	(nnh										Opro						
pri			theo equiv.	)									OPER.	ATIONS	SUMM	ARY			
ALKALI	NITY MUD	(Pm)																	
ALKALINITY FILTRATE (Pf / Mf)  CHLORIDE (mg/L)  TOTAL HARDNESS AS CALCIUM (mg/L)  SULPHITE (mg/L)																			
TOTAL	DE (mg/L)				<del></del>	<u> </u>								• • •					
SULPHIT	F (mu/L)	AS CALCIUM	(mg/L)		<del>                                     </del>		-+-												
K+ (mg/	L)						_		$\neg$										
KCI (%	by Wt.)								$\dashv$										
PHPA (pp																			
		М	lud Account	ing (bbts)															
	& RECEIVED		FLUID	DISPOSED	7	\$1.3	MMARY		$\Box$				Solids C	Control E	Courina				
(drill water			Desander		INITIAL			<del></del>			Type	lirs		Cones	Hurbue			Size	_
(recirc from	m sump)		Desilter		7			L	_	Centrifuge	+	$\Box$	Desande		1	-+,	huker#1		+
Recirc Sump			Downhole		+ FLUID	RECE	EIVED	Г		Degusser	+	$\bot$	Desilter				huker#2	<del> </del>	+
eg Diesel)		··· <del>  </del>	Dumped		-FLUID L				+-										+
		··· <del>  </del>	Other	ļ	+ FLUID I	IN ST	ORAGE		7		Over	rtlow (pp	g)						
TOTAL REC	CEIVED		TOTAL LOST	1	EN U U	120.00			Desan	der	+	(bli	<del>-</del>		low (ppg) 0	$\bot$	Outpu	(Gal/Min.	)
oduct	Price	Start	Received	Used	FINAL VOL				Desilte	er			+-		0				_
				J. J	Close		+	Cost	4	Soli	ds Anal	ysis				rauliaa	2. D		
							+		-			PPB	%	Jet Ve	locity	aunes é	× Pressu	re Data	
		<del> </del>			<del></del>		<del> </del>			rav solids		$\Box$		Impac					
		<del>  </del>							Total L					ННР					
		<del> </del>							Drilled			-		HSI					
		<del> </del>							Salt					Bit Pre					_
										Irs					at Frac				_
									K⊕ II	lrs				Equiv.	Mud W	t.			_
						$\dashv$								Max Pr	066	: 61			
	l								1					ax Pr	cosure a	Shoe:			
				Ī		- 1													
						-													
											LY COS								_

	ing Flu	licia		R	بنال	T	) ł	<b>K.</b> I			Rig	, No	1	Spud	:		4-Ma	
OPERA		Lake	s Oil	<u> </u>							De	oth		to			5-Ma Actres	
REPOR	RT FOR	Gera	rd Nicot						VTRACT(		Sid	es En	gincering				tetres	<u>s</u>
WELL	NAME AN							FIEI	ORT FOI	R		er Fre						_
DRILLING	ASSEMBLY		es Pie # 1					Wild				OCAT			STATE			
BIT SIZE	TYPE	JET SIZE		CASIN	G		MUD		ME (BBL)	7	Gi	ppslai	nd Basin		Victoria			
RILL PIPE	TYPE	Length	:	SURFACE SET @		ft M	НО	LE	PITS	<del>                                     </del>	PUMP	SIZE	CIRCUL	ATION				_
RILL PIPE	# TYPE			NT. ET @		ft M	TOTAL CH	RCULATIO	NG VOL.	PU	5.5 X IP MODEI	10	ASSUME!		IRCULATION PRESS (PSI)			
IZE	1111	Length 3		ROD, or NR Set - a		ft		N STORAG	GE		LARK			, EFF	BOTTOMS UP (min)			
RILL COLLA	AR SIZE (")	Length	MIDTY			М							STK/MIN	TO	OTAL CIRC. TIME (min)			
		M	ltrs	AIR						В	BL/MIN		GAL/M			P		_
	LE FROM					M	UD PRO	PERTIE				MUDI	ROPERT	TV SPECI	(ft/min) D	Cz		
	SAMPLE TA				-			FL		Weight		1	PI Filtrate	TSFECT		IS IPIIT Fil	terre	
	I (ft) - (m) LINE TEMF			N	etres		-		Plasti KCl	ie Vis			ield Point			11		-
WEIGH	HT	ERATURE			<sup>0</sup> F			$\overline{}$				P	HPA		Se	ulphites		_
FUNNE	L VISCOSI	TY (sec/qt) A	Plon	ppg/S									OBSE	RVATION	vs			_
PLAST	IC VISCOSI	TY cP a		0 <u>(</u>			-T											
YIELD	POINT (ib	/100ft²)			$\dashv$				MAK	E UP WA	TER TE	STED	CHORIDE	S 300MG/	/I.			
GEL ST	RENGTHS TE API (c	(lb/100ft <sup>2</sup> ) 10	0 sec/10 min		_		-					i	IARDNES	SS 300MG	i/L			
HPHT F	ILTRATE	c's/30 min) (cc's/30 min) a					_						PH	7.5				
CAKE T	HICKNESS	API: HPHT	(32nd in)	<sup>0</sup> F	-				FIXIN	NG MUD	STSTE	4 T/ \ A	ADV ADV					
SOLIDS	CONTENT	(% by Volum	ne)		- -						0101151	4. 1() <u>r</u>	MIX VID	ITIONAL	PROPERTI	ES		
LIQUID	CONTENT	(% by Volur	me) OIL/WA	TER				<del></del> -										
METHY	ONTENT (	CARL			_		-+-											
рН	CEIVE BLUE	CAPACITY	(ppb equiv.	)					$\dashv$			OP	ERATION	IS SUMM	IARY			-
ALKALI	NITY MUD	(Pm)			-													
ALKALI	NITY FILTE	RATE (Pf/M	1t)		+-				DRILL	ED AHEA	D 12 1/	4 " BH	. WITH V	1D		•		
CHLORI	DE (mg/L)								SET 9 5	5/8 " SUR	FACE (	ASING	3 AND CI	EMFNT				
SULPHIT	E (mg/L)	AS CALCIUM	(mg/L)		1													
K+ (mg/	L)						_		$\dashv$									
KCI (%	by Wt.)																	
РНРА (рр	b)																	
LID RUTUT	& RECEIVED	N	Mud Account	ing (bbls)														
(drill water			FLUID	DISPOSED	T	SU	MMARY			Fee:		Soli	ds Control	Equipme	ent			
(recirc from			Desander		181	TIAL VOL	UME	$\top$	Centri	ifuge	pe Hrs	↓	Cone			Г	Size	٦
ater			Desilter Downhole		4				Degus			Des:	inder		Shake	er#1		7
Recirc Sump			Dumped	· <del> </del>		JUD RECE	EIVED				┪—	Des	iller		Shake	r #2		1
eg Diesel)			Other			UD LOST UID IN ST												┙
TOTAL REC	CEIVED				1				Desander		)verflow	(ppg)	Unde	rtlow (ppg)	0	utput (C	al/Min.	<u>.</u>
oduct	Price	Start	TOTAL LOST		FINAL	. VOLUME			Desilter					0				_
		1	Received	Used		Close	(	ost	1-	Solids A	nalysis		<del></del>	0				_
							-			A	PPB	%	Int V	Bit Hydi elocity	raulics & P	ressure	Data	_
				<del></del>			<del> </del>		High Grav s	solids				elocity ict force				_
		<del>                                     </del>					<del> </del>		Total LGS				ННР					_
		<del> </del>					<del>                                     </del>		Bentonite Drilled Solid		+		HSI					_
		, ,							Salt		<del>                                     </del>			ress Loss				_
		<del></del>							n a OHrs		+			Seat Frac				_
									L . A		<del> </del>		ECD	. Mud W	t.			
									Kå 0 Hrs		Į		15.5					
									K a UHS		L			Pressure /	d Shoo			_
									K # OHIS					Pressure a	a Shoe:			_
									K a Ullis					Pressure 6	a Shoe:			_
NGINEER										DAILY	TOST				a Shoe:			_

					LLI							Re	port #	ŧ .	4	Date	::		10	-Mar-2	:003
Drilli	ng Flu	ids			RE	PC	DR	? 7	r			Rig	No		1	Spu	1:	-	15	-Mar-2	003
												De	oth		4	to		25		etres	17073
OPERA			Lakes O	il				CC	ONTR	<b>ACTO</b>	R			ginee	ring				141	ctres	
REPOR			Gerard I	Nicot				RE	EPORT	FOR				cemai							
WELLE	NAME AN	D No						FI	ELD					rion			STA	TE			
Distriction			Patties P	ie # 1				Wi	ildcat			G	ippsla	ind Ba	ısin		1	toria			
DRILLING .	ASSEMBLY TYPE		JET SIZE	9 5/8 SURE	CASING				LUME (	BBL)			<u></u>			TION	DAT				
8.5	MH113G			9 5/8 SURF		n M	но	LE I		PITS 89		PUMI 5.5 X	SIZE				CIRCUL.	ATION			
DRILL PIPE SIZE	TYPE #	Length	Mtrs	INT. SET 2	, .		TOTAL CH		VIING VO		PUN	MP MODE		Inches	SUMED	EFF	PRES:	OMS			
DRILL PIPE SIZE		Length		PROD	. or	M II		IN STO	90 RAGE			TARK		STK	MIS		UP				
DRILL COLLA	HW R SIZE ( " )	Length	Mtrs	MUD TYPE	લ ફે	M											TOTAL O				
			Mtrs		GEL						В	BL/MIN		(	AL/MI	×	ANN		DP		
						M	ILD PRO	)PER	TIES	$\top$	<u> </u>		MUD	PRO	FRT	V SPE	CIFIC		DCs		
	LE FROM			<del>,</del> ,		FL				Mud	Weight			API Fi		. 51 2	CIFIC	ATIC	HPHT F	ltrate	
	SAMPLE TA		<u> </u>			1.30	0			Plasti	ie Vis			Yield F	oint				pll		
	LINE TEM		TUDE		Metre:	s				KCI				PHPA					Sulphites		
WEIGH		LKA	TUKE		°C °F	0.00				4				0	BSER	VAT	IONS				_
	L VISCOS	ITY	(sec/qt) API	-â	°C	8.60	1.032			-											
PLAST	IC VISCOS	ITY	cP a	<del></del>	°C	10				CIRC	CULATEL	MID	IN MI	II's DET	יחם י	20010					
	POINT (II					6				MUE	STILL T	HIN A	S ONI	YMIN	S, PIG OR C	: 2201	TO DI	9 5/8 ( 2 ENIC	CASING	D LUC	
GEL ST	RENGTHS	(lb.	/100ft <sup>2</sup> )_10 se	ec/10 min		2 3			T	1					OK C	LAT	10 131	: ENC	OUNTE	KED.	
	ATE API (									]											
			s/30 min) <i>à</i> : PI : HPHT		°F	ļ				]											
			6 by Volume			<b>├</b> ──┴				4											
	CONTENT		% by Volume		FR					4											
SAND C	ONTENT	(% t	y Vol.)	, 010 117(11		<del> </del> -			ــــــــــــــــــــــــــــــــــــــ	┼											
METHY	LENE BLU	JE CA	PACITY	ppb equiv.)		<del></del>				CHIE	TRUD DO	ID A NIES		OPER.				RY			
pН						9.0				Terrise	CKED BO	P AND	A55C	)CIA II	:D EQ	UIPM	ENT				
	INITY MUI		Pm)						RECE	EMENT 9	5/8 CA	SING									
			E (Pf/Mf	<u> </u>		0.20 (	0.30			1			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
	IDE (mg/l		CALCIUM			300				]											
SULPHI	TE (mg/L	3 A3	CALCIUM	(mg/L)		300	_			1											
K+ (m;		,	-							1											
KCI (%	6 by Wt.)									1											
PHPA (p	pb)									┨											
P1 170 5101		•	M	ud Accounti	ng (bbls)					<del>                                     </del>				Salide	Contr	ol E					
FLUID BUIL		ED		FLUID D	ISPOSED		SUMMA	RY		1		Type	lirs	Solids		nes	llrs	<u>'</u>		Size	-T-
emix (drill wa emix (recirc fi				Desander		INITIAL V	OLUME		90	Cer	ntrifuge			Desand		$\neg +$		$\dashv$	Shaker #1	20/80	+
ill Water	rom sump)			Desilter	<u> </u>					De	rgusser			Desilte	r				Shaker #2	20/80	+
rect Recirc Sun				Downhole	ļI	+ FLUID RI		)										_		<u> </u>	+
her (eg Diesel)				Dumped Other	<b></b>	FLUID LOS	••••••		<u> </u>	1											
	•••••					* 11(11)15	STORAC		<u> </u>	Desande	or	Over	flow (p	pg)	Un	derflov	(ppg)		Outp	ıt (Gal/Min	1.)
TOTAL I	RECEIVED			TOTAL LOST		FINAL VOLU	ME	1	90	Desilter						0					
Product	Price		Start	Received	Used	Close	T	C				le Amuli			_	0					
											30110	ls Analy	PPB	%	1			aulics	& Press	ure Data	
										High Gr	av solids				_	t Velo	<u> </u>				
		-4								Total L(		_			н	pact 1	orce				
	<del></del> -	-+								Bentonit	te		$\neg +$		HS						
	+	-+								Drilled S	Solids					Pres	Loss				
	+	$\dashv$								Salt					_		t Frac	Press			
	<del>                                     </del>	+								n w 01		$\Box$			Eq	uiv. A	lud W	i			
		$\neg +$								K # 01	Irs				EC	D					
															Ma	x Pre	ssure (	i Sho	e :		

RMN ENGINEER

KEN PIERCE

DAILY COST

**CUMULATIVE COST** 

\$1,015.00

08 8338 7266

TELEPHONE

08 8338 7266

			DRI	LL	IN	$\mathbf{G}$	F	L	UI	D	R	eport	#		5 D:	ite :				
Drilli	ng Flui	ds		$\mathbf{R}$	EP(	1	<b>⊋</b> η	r				g No		1					17-Mar-	
							. 🖜 ,	•				epth		25	<u> </u>	ud:			5-Mar-	200,
OPERA		Lakes					CC	ONTI	RACTO	R		<u> </u>	ngine			to	98	I	Metres	
REPOR	NAME AND	Gerare	d Nicot				_		T FOR				reem		<u> </u>					
WELL	NAME AND		D:				_	ELD					TIO			CT	'ATE			
DRILLING	ASSEMBLY	JET SIZE	Pie # 1					ldcat					land			1	`ATE ctoria			
BIT SIZE	TYPE	JET SIZE	7" SUR	CASINO	295 ft			UME	(BBL)			<u> </u>				ON DA				
8.5 DRILL PIPE	MH113G Le	ngth	SET	è	90 M		DLE 10		PITS 84		PUM 5.5 X	PSIZE				CIRCU	LATION			
SIZE 3.5 DRILL PIPE	G#	29 Mt	INT. SET		It M	TOTAL C			OL.	Pi	'MP MOD	EL.	inche	ASSUME	D EFF		SS (PSI) FTOMS		1400	
SIZE	HW	ngth Mi		D. or Set @	ſſ		IN STO	94 RAGE			CLARK BBL/STK		ST	K/MIN	95.0	UP	(min)			
DRILL COLLA	4.75 Le	ngth	MUD TYPE		M						0.2670 BBL/MIN				66		CIRC. E (min)		8	
1,100	4.73	69 Mt	rs	GEL							7.28		1	GAL7:	MIN 306		N VEL. /min)	DP	125	
SAMP	LE FROM					UD PR	OPERT	TES				MU	D PRO	OPER			CATIO	DCs 2	07 15	1
	SAMPLE TAI	CEN			FL				Mud V				API	Filtrate				HPHT F	iltrate	
	H (ft) - (m)			Ме	11.3				Plastic KC1	Vis				Point				pii		
	LINE TEMPE	RATURE			F 70				-				PHP,					Sulphite	s .	
WEIGI				ppg / SG	8.40	1.008		<u> </u>	$\dashv$					OBSE	RVA	TIONS				
PLAST	EL VISCOSIT IC VISCOSIT	Y (sec/qt) Al	Pl (å)	°C	43				ADDI	ED GEL	TO GI	VE AL	DITICIC	IANC	PROF	arn <b>a</b> si				
	POINT (1b/1			0 C					ADDI	ED ENE	RSEAL	FINE	TO C	ONTR	OL LO	OSS CII	RCIII A	TION		
	TRENGTHS		sec/10 min		14			-	CIRC	ULATE	D AND	CONI	OITIC	N HO	LE FO	R CASI	ING	mon.		
FILTR	ATE API (cc	's/30 min)			3 4			<u> </u>	4											
HPHT I	FILTRATE (	cc's/30 min) 'a	i	° F					$\dashv^{\text{NEW}}$	MAKE	UP WA	TER	TESTE							
CAKE	THICKNESS	API: HPHT	(32nd in)		1	$\neg \uparrow$			┪					H	ARDN	ESS 40				
LIQUID	CONTENT CONTENT				0.4			<u>.                                    </u>	7							PH 7				
	CONTENT (	6 by Volum	ne) OIL/WAT	ER	<del></del>	9.6														
METHY	LENE BLUE	CAPACITY	(ppb equiv.)		1.50	_							OPER	ATIC	NS SI	JMMA	RY			
pН			(Marchalt.)		9.5				4											
	INITY MUD	(Pm)							-IDRILL	ED 8.5"	TO 96	M.W	TPER	TRIP.	HOLE	IN GC	OD CC	THUN	ON	
ALKAL	INITY FILTR	ATE (Pf/M	f)		0.30 0	.30			TOOM.	PICKI:	D OP T	OP DI	SIVE 8	e BRI	AKO	JT 6 " I	AD II I	COLLA	.RS	
	IDE (mg/L) HARDNESS A	C C 1 C C 1 C C C C C C C C C C C C C C			400				RUN 7	" CASI	& DRII NG TO	7.1 M	GNG .	. RIG	UPFO	)R 7" C	ASING	RUN		
SULPHI	TE (mg/L)	IS CALCIUM	(mg/L)		400				CIRCU	LATE 7	" CASII	vg w	. 01_1	OF CI	RC ()].	ZATINC	HEAL	)		
K+ (mg								SET 7"	CASIN	G IN SL	IPS									
KCI (%					+				-											
PHPA (p	pb)				+	+			1											
FLUID BUILT	T& RECEIVED		Mud Accounti						<del> </del>				C 11.1							
mix (drill wat			+	ISPOSED	S	UMMA	RY		1		Type	Hrs	Solids		rol Eq	uipmen IIrs	1			
mix (recirc fr		60	Desander	<u> </u>	INITIAL VO	LUME		91	Centr	iluge		十	Desand						Size	111
ll Water			Desilter Downhole	<del></del>	-		_		Degu	ISSET			Desilt	er		20		haker#1 haker#2	20/80	2-
ect Recirc Sum	IP.		Dumped	47	+ FLUID RE		<u>-</u>	60											20/80	+
er (eg Diesel)			Other	10	+ FLUID IN S			57											L	ــــــــــــــــــــــــــــــــــــــ
TOTAL R	FORIUPA				1	***************************************	L		Desander		Overi	low (p	rg)	U	idertla	v (ppg)		Outpu	t (Gal/Min.	.)
Product	T	60	TOTAL LOST	57	FINAL VOLUM	ΗE	Γ	94	Desilter						0					
gel	S 14.00	Start	Received	Used	Close		Cost			Solid	s Analy	sis								
rseal Fine	S 52.00	58		16	42	S	2	24.00				PB	%	1,	t Velo		aulies 8	Press	ure Data	
		† - <del></del>		24		<u> </u>	1,2	48.00	High Grav	solids		7			pact	·-				
								_	Total LGS					_	HP					
					<del></del>				Bentonite					H	18					
						+-		-	Drilled Soli Salt	ids		+		Bi	t Pres	Loss				
						+-		-	an Hrs		-					t Frac				
	<del> </del>							_	Cir Hrs							lud Wt				
	<del> </del>													EC			-			
	<del>                                     </del>							$\Box$						- Parts	A F FC	sure a	Shoe:			
						1		П												
		i i				_		-+												
						-		$\dashv$												
ENGINEE		IERCE						1			Y COS			T		CUMI	ULATI	VE CO	ST	

OPERATOR REPORT FOR WELL NAME AN				$\mathbf{EP}$		. <b>.</b>			- 1	Rig N	0	1	10	ud:		•	
REPORT FOR									- F	D			Sh	ua:		15-M	ar-
		s Oil				CO	TRACT	ΩP		Depth		98		to	98	Metr	es
WEEL HAME AN	Gera	rd Nicot					ORT FO				Engine		2				
						FIE	D				Freem						
DRILLING ASSEMBLY		es Pie # 1				Wild					ATIO			STA	TE		
BIT SIZE TYPE	JET SIZ		CASING	3	MUE		ME (BBL)	T -		Gipp	sland l			Victo			
DRILL PIPE TYPE			URFACE ET @	295 ft 90 M		OLE	PITS	+	PI	IMP SIZI	CI	RCUL	ATIO	N DATA			
SIZE #	l.eugth		CT.	fi fi	TOTAL C	10 IRCULATE	74 SG VOL	<del> </del>	5.5	X 10	Inche			CIRCULA PRESS			
ORILL PIPE TYPE SIZE HAV	Length		ET W ROD, or	M ft		84			UMP MO CLAR		1	ASSUME		BOTTO	OMS		
DULL COLL	ength	MUD TYP	VR Set ⊕	M		IN STORA	GE		BBL/ST		ST	K/MIN	95.0	TOTAL CI			
		ltrs	GEL					1	BBL/MI	IN	+	GAL/A	66	TIME (z	nin)		
			- OLL		AUTO DO									ANN V			
SAMPLE FROM					MUD PRO	PERTIE	1			ML	D PRC	PERT	TY SPI	ECIFICA	TIONS		_
TIME SAMPLE TA	KEN				.30			Weight			API F	iltrate				Filtrate	
DEPTH (ft) - (m)			Ме		8		KCI					Point			pli		
FLOWLINE TEMP	ERATURE		° C 0	F							PHPA				Sulphie	les	_
FUNNEL VISCOSI	TV (rantas)	Dr.	ppg/SG	8.40	1.008		$\neg$				<u>(</u>	OBSE	RVAT	IONS			_
PLASTIC VISCOSI	TY cP	API a	<sup>0</sup> C	- 4	3		$\neg$										
YIELD POINT (lb	/100ft²)		°C	1	1		CIRC	CULATE	D ANI	D CON	DITION	HOL	Eron				
GEL STRENGTHS	(lb/100ft <sup>2</sup> ) 1	0 sec/10 min									١١١٥١	V HOL	a: rok	CASING	3		
FILTRATE API (c	c's/30 min)			3	3												
HPHT FILTRATE	(cc's/30 min)	ù	<sup>0</sup> F				СЕМ	ENT WE	IGHT	15.3 L	BS/ GA	L.					
CAKE THICKNESS	API : HPH	(32nd in)	<del></del> -	1													
SOLIDS CONTENT				<del></del> -													
LIQUID CONTENT SAND CONTENT	(% by Volu	me) OIL/WA	TER														
METHYLENE BLUI	CARACITY			1.50	)												
рН	CAPACITY	(ppb equiv.)									OPER.	ATIO	VS SU	MMARY			_
ALKALINITY MUD	(Pm)			8.0													
ALKALINITY FILTI	ATE (Pf/N	10		+													
CHLORIDE (mg/L)					0.80		RIG U	P FOR R	UNNII	NG OF	9 5/8" (	CASIN	Je un	THE CHE	ULTING F		
TOTAL HARDNESS	AS CALCIUM	I (mg/L)		500				. 61.1411.1	N I I Q	OTPINI	ENT S/	ヘトエドハ	AMILIE V	THURC	ULTING F	IEAD	
SULPHITE (mg/L)				400	-+		- CIRCU	$m_{\Lambda}$ He $\Lambda$	ND CI	EMEN.	TING T	MSPL.	ACE	TING,			
K+ (mg/L)				<del> </del>			RIG D	OWN CE	MENT	ГЕQUI	PMENT	r					
KCI (% by Wt.) PHPA (ppb)				1													
THEA (ppn)							$\dashv$										
LUID BUILT & RECEIVED		Mud Account					<del></del>										
ix (drill water)	<del></del>	+	DISPOSED	:	SUMMAR	١.	-	1	Type	Hrt	Solids (	Contro	l Equi				_
x (recirc from sump)		Desander Desilter		INITIAL V	OLUME	94	Cent	rifuge		-		Con	es	Hrs		Size	
Vuter		Downhole	·				Deg	usver		-+	Desander				Shaker #1	20/80	,
Recirc Sump		Dumped	·	+ FLUID RE					$\dashv$	-+	Desilter	+-			Shaker #2	20/80	
(eg Diesel)		Other	10	-FLUID LOS	***************************************	10									L	L	
TOTAL			<del></del>	+ FLUID IN	STORAGE				Over	flow (pp	g)	Unde	erflow (	DD#)	0	t (Gal/M	
TOTAL RECEIVED		TOTAL LOST	10	FINAL VOLU	ME	Γ 0.	Desander						0		varpa	(Cany)	ın.)
roduct Price	Start	Received	Used	Close		84 C	Desilter						0				
	ļ					Cost	+	Solids	Analy	'sis		Т	Bit F	Ivdraulie	es & Pressi	tro Doc	
	ļ				+		Wish C			PPB	%	Jet '	Velocit	y		are Dat	<u> </u>
	<del> </del>						High Grav					Imp	act for	ce			_
	<del> </del>						Bentonite					НН	Р				_
	<del>  </del>						Drilled Soli	ids	+			HSI					_
							Salt		+	+			ress L				_
	<del></del>						n à Hrs		+					rac Pres	s		_
	<del></del>						K w Hrs						v. Muc	i Wt.			
	<del></del>											ECD					_
					-							wiax	Pressu	re d Sho	ie :		_
		<del></del>			+												
					-												
		I			j.												

R	MN		$\mathbf{D}$	RI	LLI	IN	G	$\mathbf{F}$	LT	JID	<b>)</b>	- art			1				
Print.		م م									}	Report			Dat			9-Mar-2	
Onlli	ng Flui	ias			RE		Jr	K J	L		1	Rig No		1	Spu			5-Mar-2	003
OPERA	TOR		Lakes Oil	1				T CC	NTRA	CTOP		Depth Siden F		98	t	0 98	N	Actres	
REPOR	T FOR		Gerard N					_	PORT			Sides E							
WELL	NAME AN	D No		<del></del>					ELD	- FUR		Peter Fi				STATE			
			Patties Pic	<del></del>				Wil	ldcat			Gippsl				Victoria			
DRILLING A	ASSEMBLY TYPE	<del></del> '	JET SIZE	7" SURFA	CASING				UME (B				CII		ATIO	N DATA			
				SET @		90 M		IOLE 10	15	ITS 55		PUMP SIZE X 10	Inches			CIRCULATION PRESS (PSD			
SIZE	#	Length	Mtrs	INT. SET @		ft M	TOTAL C	CIRCULAT	TING VOL.		PUMP M CLA	MODEL		ASSUMED		BOTTOMS			psi
DRILL PIPE SIZE	HW	1.ength	Mtrs	PROD. : LNR Se		ft M		IN STOR			BBIJS		STE	K/MIN	5.0	TOTAL CIRC.			mir
DRILL COLLA	R SIZE ( " )	Length		MUD TYPE							BBL/N	MIN	+-	GAL/MI	66 IN	TIME (min) ANN VEL.	DP		mir
			Mtrs		GEL		- 11 7N PI	· ^nepg		<del></del>		2.77				(ft/min)	DCs	-	
SAMP	LE FROM						MUD PR	ROPERT	IES	Mud Weight	he	MU		OPERT Filtrate	Y SP	ECIFICATI			
	SAMPLE TA				-		0.00	+		Plastic Vis	<u> </u>			Point			HPHT I	iltrate	
	H (ft) - (m)				Metres	s 9	98			KCI			PHP.				Sulphite	8	
FLOW WEIGI	LINE TEMI	PERAI	TURE		°C °F	I			$\Box$					OBSE	RVAT	TIONS			
	EL VISCOSI	ITY (	(sec/qt) API	rā	ppg / SG	8.40	1.008	-		4 carent	^^ V T/	· · · · · · · · · · · · · · · · · · ·							
PLAST	ric viscos	SITY	cP @	·	°C	<del></del>	11	<del> </del>		OF FRESH			ID Pita	S Witr	TRU	JCK LOAD			
	POINT (II					1-	14			1	1 ***.	EX							
			(100ft <sup>2</sup> ) 10 sec	c/10 min		2	2												
	ATE API ( FILTRATE				o F.	<del> </del>		<del> </del>		1									
CAKE '	THICKNES	SS AP	РІ : НРНТ (З		г	1	<del></del>	-		1									
SOLID	S CONTENT	T (%	by Volume)	)					<u> </u>	1									
			6 by Volume)	OILWATE	žR					l									
	CONTENT YLENE BLU		y Vol.) PACITY (p	L		1.5	50	<u> </u>					OPER	RATIO	NS S	UMMARY		<del></del>	
рН	I LEIVE DES	/E CA.	PACITY	opb equiv.)		8.0	<del></del>	<del> </del>											
ALKAL	LINITY MUI		Pm)			0	<del>"</del>	<del></del>		PREPARE NIPPLE UP			FOR E	3RADE	ENTHE	AD			
	LINITY FILT		E (Pf/Mt)			0.50	0.80			MIPPLE UP			KILL	FLOW	LINE	;			
	RIDE (mg/I L HARDNES		CTIM			500				1	*	Na	10	Ligita .	Linve				
	HARDNES IITE (mg/L		ALCIUM	(mg/L)		400	0	<del></del>		RESTABLI			CIA						
K+ (m		<del>'</del>			<del></del>	-				MIPPLE UP			p		- 201				
KCl (%	% by Wt.)									MAKE OF	COLLA	AR, KEA	DY, K	UN IN	IO TE	EST BOP RA	.MS		
PHPA (	րրհ)									I									
FLUID BUIL	LT & RECEIVI	ED	Mu	ud Accountin						i		<del></del>	Solid			quipment			
remix (drill w				Desander Desander	SPUSED	INITIAL	SUMM.				Typ	pe Hrs		r.	ones	Hrs	<u> </u>	Size	Hrs
remix (recirc f	••••••			Desilter		1Stress	VOLC 31.	I	84	Centrifuge Degusser			Desar		-		Shuker#		$\bot$
rill Water			100	Downhole		+ FLUID	RECEIVE	ED	100	1715	+		Desi	iter	-		Shaker #7	2 20/80	+
ther (eg Diesel)	•••••	<b>-</b>		Dumped		-FLCID L	OST		19	<u> </u>			Ь				Ĺ		
ther (eg Diesel)	J			Other	19	+ FLUID	IN STOR	AGE	$\Box$	<del></del>		Overflow (	(ppg)	T'		ow (bba)	Out	put (Gal/Mir	a.)
TOTAL	RECEIVED		100	TOTAL LOST	19	FINAL VOI	лиме	ſ		Desander Desilter					0				_
Product	Price	•	Start	Received	Used	Close		Cus	+		Salidy /	Analysis	1						
	<b>T</b>	$\Box$							<u>"</u>		30ttus	Analysis PPB	%	-	et Vel	Bit Hydraulic locity	es & Pres	sure Data	
		+	+						I	High Grav soli	lids		<u> </u>	_		t force		<del></del>	
<del></del>	<del></del>	+								Total LGS				Н	ΉP				
	+	+			<del>+</del>		-+			Bentonite		1-	<u> </u>		ISI				
							+			Drilled Solids Salt		+				ss Loss			
	<u> </u>	$\Box$					1			n a Hrs		+				eat Frac Pres Mud Wt.	SS		
							$\Box$			K # Hrs		<del></del>			Quiv. CD	Wide vv.			
····		+							$\rightarrow$					-		ressure à Sh	10e :		
				<del></del>		<del></del>	-+		-										
		工				——	-		+										
		工					1		+		DAILY	COST	<del>,</del> –	$\neg$		CUMIII			
TY ENGINE	<del></del>						$\Box$		工		D			_		CUMULA	Alivec	OSI	
MN ENGINI	EER KE	EN PIE	.RCE		CITY	A	delaide (	Office						TELEP	HON	E	08 83	338 7266	

P	MN			)RT	T . T . 1	IN	$\overline{C}$	T	<b>T</b> 1	UID						<del></del>			
												Report	#	1	3 Da	te :	20	)-Mar-2	2003
Orillin	g Flu	id.	5		RI	P	$\mathbf{O}$	$\mathbf{R}'$	Г			Rig No		1	Spe	ıd :	1:	5-Mar-2	2003
OPERAT				<u></u>						·		Depth		98	t	0 22	26 N	letres	
REPORT			Lakes C			<del></del>				ACTOR		Sides E	ngine	ering					
WELLN		D N	Gerard	Nicot						T FOR		Peter F							
			Patties 1	Pie # 1				- 1	ELD			LOCA				STAT			
DRILLING A			JET SIZE		CASING		Тмі		ildeat LUME	(RRL)		Gipps				Victor	ia	<u></u>	
BIT SIZE	TYPE			7" SURF. SET 2		195 ft		HOLE	1	PITS		PUMP SIZE	<u> </u>	RCU	LATIO	N DATA	os		
DRILL PIPE 1 SIZE 3.5	TYPE	Lengt		INT.		90 M	TOTAL	25 CIRCUL	ATING VO	110		X 10 MODEL	Inche	ASSUME	n eee	PRESS (PS	SI)		
DRILL PIPE	G# TYPE	Lengt	27 Mtrs	SET 2		M	<u> </u>	IN STO	135 DRAGE		CL	ARK			80.0	BOTTOM UP (min)			
SIZE DRILL COLLAR	HW SIZE ( " )	Lengt	Mtrs	MUD TYPE	iet ä	M	<u> </u>						ST	K/MIN		TOTAL CIRC			
4.75		83	Mtrs		KCl Pac						BBL	MIN		GAL /	MIN	ANN VEL	DP		Т
CAMDI	E EDOM						MUD P	ROPER	TIES			MU	D PR	OPER	TY SP	ECIFICA7	DCs		
	E FROM AMPLE T.	AKE	'N				L	$\perp$		Mud Weight				Filtrate		zen iea i	HPHT F	ltrate	
	(ft) - (m		,14		Metr		00			Plastic Vis				l Point			pH		
	INE TEM		ATURE		°C °F		80	<del></del> -		KCI			PHP				Sulphites		
WEIGH					ppg / SG	8.50	1.020	,						OBSI	ERVAT	IONS			
	LVISCOS			I â	°C	3	6			INITIALLY	' BUI	LT MUD	TO 2.5	5 % K	CL AN	DSTARTE	D DRILLIN	JC:	
	C VISCOS POINT (I				<sup>0</sup> C					ADDING F	PAC I	. TO GIV	E ADD	OITIC	VAL PI	ROPERTIE	S	ici,	
			b/100ft²) 10 :	sac/10 min		9			<del>-,</del>	TREATED	МИД	TO CON	TROL	CEM	ENT C	ONTAMNA	ATION		
FILTRA	TE API (	cc's/	30 min)			3		+		4									
HPHT F	ILTRATE	(cc	's/30 min) 'ā	,	° F	<u> </u>		+		4									
CAKE T	HICKNES	S A	АРІ : НРНТ	(32nd in)		1				1									
	CONTEN		% by Volum			<del> </del>													
	ONTENT	`		ie) OIL/WATI	ER			ļ											
				(ppb equiv.)		1.0		-		-		,	OPE	RATIO	ONS SI	J <b>MMARY</b>			
pН						9.5	5	-		PRESSURE	TEST	l BB vijib	d a Mir	CHIO	1711		*		
	NITY MUI		(Pm)							RUN IN BH	IA AI	VD DRILI	LED O	UTCI	NE MENT	SHOE AN	any product		
	DE (mg/l		TE (Pf/M	f)		0.50	0.90			DRILL ATE	AD 1	O 226M				SHOL AN	412 (11, OLG		
			CALCIUM	(mg/L)		400		ļ		4									
	E (mg/L			(g. 2)		717		<del> </del>		-									
K+ (mg/								<del> </del>											
KCI (% PHPA (pp										]									
ctrA (p):	10)			March Ausses															
FLUID BUILT	& RECEIVI	ED		Mud Accounting	ng (bbis) ISPOSED	т	SUMD	MARA:		4	T.		Solid			uipment			
emix (drill wat	er)		30	Desander	T	INITIAL			165	Centrifuge		pe Hes			Cones	Hrs	ļ	Size	111
emix (recirc fro	en sump)			Desilter						Degusser	+		Desa Desi				Shaker #1	20/80	1:
ill Water rect Recirc Sum				Downhole	5	+ FLCTD (	RECEIV	ED	30		_		12.3				Shuker #2	20/80	- 1:
her (eg Diesel)				Duniped Other		•FLUID L	·····		10								-L	L	
					5	+ FLUID I	N STOP	RAGE	<u></u>	Desander	4	Overflow (	ppg)			w (bba)	Outpu	ıt (Gal/Min	1.)
TOTAL RI	ECEIVED		30	TOTAL LOST	10	FINAL VOL	UME		135	Desilter	+				0				
Product	Price		Start	Received	Used	Close	,	C	ost	<del></del>	dids	Analysis							
IC Pac-LA		7.50	10		l	9		S	177.50			PPB	%	-	Jet Vel		ics & Press	ure Data	-
foamer T	<del>                                     </del>	5.00 9.75	80		2	2	$\overline{}$	Š		High Grav solid	s				mpact	<del></del>			
la Ash	<del>                                     </del>	3.00	3		20	60		\$		Total LGS					НР				
					-	2		s	28.00	Bentonite		-		_	ISI				
										Drilled Solids Salt		-		_		s Loss			
	<del> </del>	_								n a Hrs		+				at Frac Pro Mud Wt.	ess		
	<del> </del>	-								K & Hrs				_	CD	······································	<del></del>		
	<del>                                     </del>	$\dashv$					_									essure a S	hoe :		
		+																	
							+												
		$\dashv$								D.	AII.V	COST		_		CHATIT	ATIVE		
N ENCINE	D 100	<u> </u>	EDGE									0.50		$\dashv$			ATIVE CO. 377.50	151	
IN ENGINEE	K KE	N PI	ERCE		CITY	Ad	lelaide	Office						FELE	UONI		J / /.30		

CUMULATIVE COST \$3,732.25

08 8338 7266

TELEPHONE

R	MN		D	RII	LI	N	G	$\mathbf{F}$	LU	JII	D	Ren	ort#	9	Date	· :	21-	Mar-200	3		
Delining Total							) T	ר כ	г.			<u> </u>	•	1							
Drilling Fluids RE							PORT					Rig No Depth		226		Spud : to 290		15-Mar-2003 Metres			
OPERATOR Lakes Oil								СО	NTRA	CTOR		<u> </u>		incering		270	ivic	tits			
REPORT	****	·······	<del></del>	PORT				er Free	<u> </u>												
WELL NA			FIE	ELD	LOCATION						STATE										
		Patties Pic	Wildcat			Gippsla			nd Basin		Victoria	1									
DRILLING ASS				UME (B	BBL) CIRCULATION DATA																
1	PE REED	14	14 12	7" SURFAC SET ŵ	E 295		H	35	P1*	1	5.5	PUMP 5 X		Inches		CIRCULATION PRESS (PSI)		100			
		ngth	207	INT. SET #		ft TOTAL C		IRCULA	TING VOL.		PUMP	MODE		ASSUMI	O EFF	BOTTOMS		300	psi		
DRILL PIPE T	G# YPE Le	ength	207 Mirs	PROD. o	<del></del>	ft ft		145 IN STORAGE				ARK DSTK		80.0 STK/MIN		UP (min) TOTAL CIRC.	·		mir		
SIZE DRILL COLLAR S	HW Lee	ngth	Mtrs	LNR Set	ii)	M						.0935		48 GAL/MIN		TIME (min)			mir		
4.75 8.						ac					881/MIN 3.59			GAL/	151	ANN VEL. (ft/min)	DP DCs		1		
							MUD PR	OPERT	TIES				MUD	PROPER		ECIFICATI					
SAMPLE						FL				Mud Weight				API Filtrat	e		HPHT Filtrate				
	MPLE TA	KEN				12.00					Vis			Yield Point							
	(ft) - (m)	EDAT	UDE		Metres	s 290			T -	KCI				РПР.А			Sulphites				
WEIGHT	NE TEMP	EKAI	UKE		°C °F ppg/SG	8.90 1.068				┨			•	OBS	ERVAT	TIONS					
		ry 6	sec/qt) API	ā	°C		7	-		DILU	DILUTED TO MAINTAIN MUD WEIGHT										
	VISCOSI	<u> </u>			°C	8				DILUTED TO MAINTAIN MUD WEIGHT. ADDED KCL , PAC R TO GIVE ADDITIONAL PROPERTIES.											
YIELD P	OINT (lb.	/100ft	<sup>2</sup> )			3				1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, the K to olve additional profesties.									
GEL STR	ENGTHS	(lb/1	00ft <sup>2</sup> ) 10 sec	:/10 min		3	3	<del>                                     </del>	T -	1											
FILTRA	E API (c	c's/30	min)							1											
	LTRATE				° F					]											
CAKE THICKNESS API : HPHT (32nd in)						1		<u> </u>		] .											
		`_	by Volume)	011 011																	
LIQUID CONTENT (% by Volume) OIL/WATER SAND CONTENT (% by Vol.)																					
		<u> </u>	PACITY (	anh equiv )		1.0	1.00 OPERATIONS SUMMARY							<u>UMMARY</u>							
рН				лро сцин.,		9.	0	ļ		TRIP	ו וומנו וא	LETYA	THEATS	EDOM 2	24 8 4 72	20034					
ALKALI	NITY MUD	(P	m)			-				TRIP IN, DRILLED AHEAD FROM 226M TO 290M PULLED BACK TO 245 M. CIRCULATED 3 HRS FOR HOLE GAGE											
ALKALINITY FILTRATE (Pf/Mf)							0.90				TRIPPED IN TO 290M , CIRCULATED.						HOLE ON	CII.			
CHLORIDE (mg/L)							00			TRIPPED OUT TO 245 M, CIRCULATED HOLE											
TOTAL HARDNESS AS CALCIUM (mg/L)						600			_												
	E (mg/L)																				
K+ (mg/L)							2.0			1											
KCI (% by Wt.) PHPA (ppb)							0			Į											
1111 A ()/J			М	ud Accountin	g (bbls)					-				6 11 6							
Mud Accounting (bbls)  FLUID BUILT & RECEIVED FLUID DISPOSED							SUMN	LARY		1		Type Hrs		Sonds Co	Cones	quipment	7	Size	Hr		
Premix (drill wate	er)		30	Desander		INITIA	L VOLUN	1E	135	Cer	ntrifuge	f	-	Desander	-		Shaker #1	20/80	12		
mix (recirc from sump)				Desilter			***************************************	***************************************		De	gusser			Desilter	1		Shaker #2	20/80	12		
Drill Water			20	Downhole	5	+ FLUIO	RECEIV	.ED	50						1			İ	+		
Direct Recirc Sump			Dumped		-FLCID	LOST		40								*	-t				
Other (eg Diesel) Other 35					+ FLUID	IN STO	RAGE	AGE				Overtlow (ppg)		Underf	low (ppg)	Outp	at (Gal/Min.	.)			
TOTAL R	ECEIVED		50	TOTAL LOST	40	FINAL VO	MUNIE			Desando						0					
Product	Price	$\dashv$	Start	Received	Used				145	Desilter		<u> </u>				0	<u> </u>				
AMC Pac-R		7.50	20	Merrica	1	Clo 15		s	177.50	<b>-</b>	Solic	ls Ana		%	_	Bit Hydrau	lics & Pres	sure Data			
CT		9.75	60		9	51		s		High Gr	av solids		PPB		_	docity					
	1				y				177.73	Total L					Impact force HHP						
										Bentoni					HSI						
										Drilled :	illed Solids				Bit Press Loss						
											Salt				CSG Seat Frac Press						
											n a Hrs					uiv. Mud Wt.					
									Ka II	rs				ECD							
															Max F	Pressure a S	Shoe :				
<del></del>	-																				

Adelaide Office

CITY

RMN ENGINEER

KEN PIECE

DAILY COST

12

12

Adelaide Office

651.75

Total LGS

Bentonite

n w Hrs

Kä Hrs

**DAILY COST** 

\$1,574.25

Salt

Drilled Solids

HHP

HSI

ECD

TELEPHONE

Bit Press Loss

Equiv. Mud Wt.

CSG Seat Frac Press

Max Pressure a Shoe:

**CUMULATIVE COST** 

\$5.307.00

08 8338 7266

Caustic Soda

RMN ENGINEER

19.75

KEN PIERCE

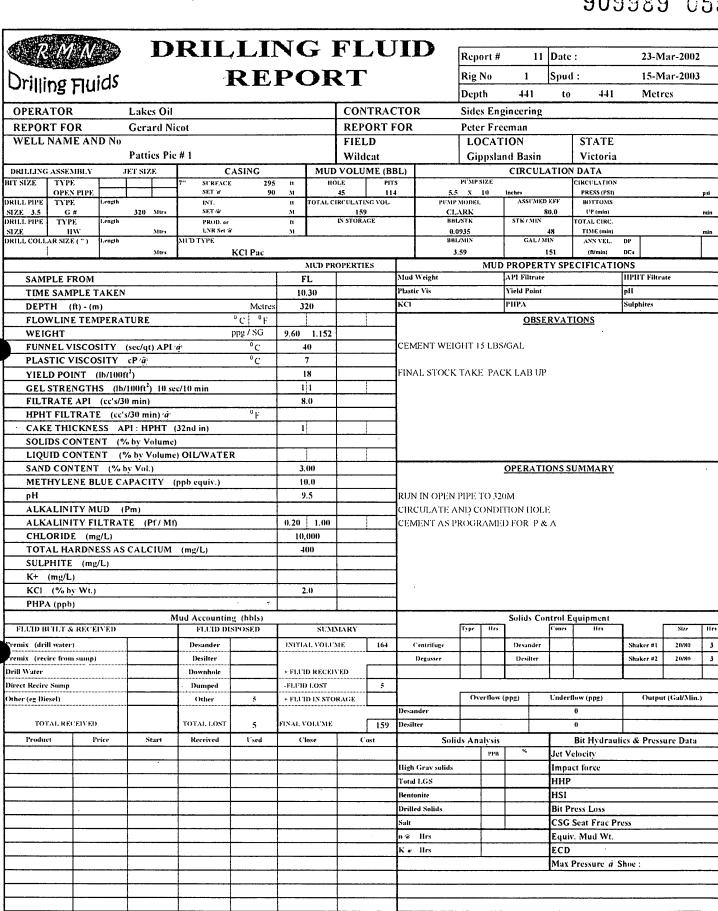
51

33

CITY

18

DRILLING FLUID																						
					, <u>I</u> , J		Repoi	Report # 11		Date	::	23-Mar-2002			!							
Drillit	PORT					Rig No			1	Spu	1:	15	15-Mar-2003									
							Depth		441	to	441	M	Metres									
OPERA	CONTR				CTOR Sides Engineerin																	
REPOR' WELL N				REPORT FO			Peter				1 00 . 00											
WELLI			FIE		LOCATION						STATE											
DRILLING A		MUE	Wildcat VOLUME (BE		BL)	<del></del>		isiai	nd Basin CIRCULATION		Victoria											
	DRILLING ASSEMBLY							DLE			PUMP SIZE					CIRCULATION PRESS (PSI)						
DRILL PIPE	TYPE	Length	11	INT.	90	ft TOTAL C		45 IRCULAT		+		X 10 MODEL	IODEL.		ASSUMED EFF					psi		
SIZE 3.5 DRILL PIPE	G# TYPE	Length	320 Mtrs	SET @ PROD. or		M ft	<u> </u>	IN STOR.				ARK /STK		STK/MIN	80.0 UP (min) TOTAL CIRC.					min		
SIZE DRILL COLLA	HW R SIZE (")	Length	Mtrs	LNR Set @		М						)935 /MIN	_	GAL/	48	TIME (min) ANN VEL.	DP			min		
	Mirs KCI Pac									3.59			. 151		(ft/min)	1						
			OPERTI	OPERTIES						ECIFICATION												
	LE FROM SAMPLE T	AKEN					L 20				Mud Weight Plastic Vis			API Filtrat Vield Point	HPHT Filtrate							
	H (ft) - (m				Metres	10.30 s 320			KC					PHPA		Sulphites						
	LINE TEM		TURE		<sup>0</sup> C <sup>0</sup> F									OBS	ERVAT	IONS						
WEIG	нт				ppg/SG	9.60	1.152			1												
	EL VISCOS		(sec/qt) API	û	°C		0		CEMEN.			GHT 15	LBS/	GAL								
	POINT (		eP @	···	°C		8			EINA	L STOCK	TAKE	DAC	KTABİL	)							
				c/10 min		1			T	1	il brock	TAKE	inc	K LAD O								
GEL STRENGTHS (lb/100ft²) 10 sec/10 min FILTRATE API (cc's/30 min)							.0		<del></del>	1												
	FILTRATE				° F					]												
CAKE THICKNESS API : HPHT (32nd in) SOLIDS CONTENT (% by Volume)									<u> </u>													
			<del>`</del>	OIL/WATEI	?				T	ł	•	•										
	CONTENT			, OLD WATER	<u> </u>	3.00					OPERATIONS SUMMARY									_		
METH	YLENE BL	UE CA	PACITY (	ppb equiv.)		10.0																
рН							.5			RUN IN OPEN PIPE TO 320M												
ALKALINITY MUD (Pm)									1	CIRCULATE AND CONDITION HOLE CEMENT AS PROGRAMED FOR P & A												
ALKALINITY FILTRATE (Pf / Mf)  CHLORIDE (mg/L)							1.00 000															
TOTAL HARDNESS AS CALCIUM (mg/L)							00															
SULPHITE (mg/L)										1												
K+ (mg/L)																						
KCI ( PHPA	(% by Wt.)					2.	.0			-												
THE					-				Solids Co	ntrol F	quipment											
Mud Accounting (bbls) FLUID BUILT & RECEIVED FLUID DISPOSED							SUM	LARY		1		Type	ltrs	Silla, Ci	Cones	Hrs	1	Г	Size	Hrs		
Premix (drill water)			Desander		INITIAL VOLUM		1E 164		C	entrifuge			Desander			Shaker #	1	20/80	3			
/	remix (recirc from sump)		Desilter							egusser			Desilter			Shaker #	2	20/80	3			
rill Water breet Recirc Sump		Downhole Dumped		+ FLUID RECE		ED 5		<u> </u>														
Other (eg Diesel)		Other	5	+ FLUID IN STOR		RAGE	-	ł		Övert	low (p	ppg) Under		low (ppg)	Ou	Output (Gal/Min.		,—				
				•			***************************************	••••••		Desand	der					0				ᅱ		
TOTAL RECEIVED .		TOTAL LOST	5	FINAL VOLUME		159		Desilte	esilter				0									
Product	Pri	ice	Start	Received	Used	Cle	ose	(,	ost	Solic		ds Analysis				Bit Hydraul	ics & Pr	ssure	Data			
						<del></del>						PPB				et Velocity				_		
								-		<del></del>	ligh Grav solids Fotal LGS					ct force						
										Bentonite		_			HHP					$\dashv$		
											Orilled Solids			<del> </del>		Bit Press Loss				ᅱ		
					-					Salt					CSG	Seat Frac Pr	ess	58				
	<del></del>						a Hrs					Equiv. Mud Wt.										
									K ir Hrs		·· <del>·</del>			Max Pressure /// Shoe :								
															Max Pressure 'a Shoe :							
										DAILY COST				CUMULATIVE COST								
RMN ENGINEER KENPIERCE CITY						-	Adelaid	o Office		L	TOP 1					\$5,307.00						



Adelaide Office

CITY

RMN ENGINEER

DAILY COST

**CUMULATIVE COST** \$5,307.00

08 8338 7266

TELEPHONE

**APPENDIX 4** 

WELL LOCATION SURVEY



## AUSTEC SURVEYING CONSULTANTS 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 70 from a steel (GI) stake placed on site.

Yours Faithfully,

mun Bourde

Bruce Bowden.

Licensed Surveyor

## PE613639

This is an enclosure indicator page.

The enclosure PE613639 is enclosed within the container PE909989 at this location in this document.

The enclosure PE613639 has the following characteristics:

ITEM\_BARCODE = PE613639
CONTAINER\_BARCODE = PE909989

NAME = Patties Pies-1 Composite Well Log.

1:500

BASIN = GIPPSLAND

ONSHORE? = Y

DATA\_TYPE = WELL

DATA\_SUB\_TYPE = COMPOSITE\_LOG

DESCRIPTION = Patties Pies-1 Composite Well Log.

1:500. Lakes Oil N.L. October 2003

REMARKS =

DATE\_WRITTEN = 31-OCT-2003

DATE\_PROCESSED =

DATE\_RECEIVED =

RECEIVED\_FROM = Lakes Oil N.L.

WELL\_NAME = Patties Pies-1

CONTRACTOR =

AUTHOR =

ORIGINATOR = Lakes Oil N.L.

TOP\_DEPTH = 83 BOTTOM\_DEPTH = 439

ROW\_CREATED\_BY = DH00\_SW

(Inserted by DNRE - Vic Govt Mines Dept)

## PE613640

This is an enclosure indicator page.

The enclosure PE613640 is enclosed within the container PE909989 at this location in this document.

```
The enclosure PE613640 has the following characteristics:
     ITEM_BARCODE = PE613640
CONTAINER_BARCODE = PE909989
            NAME = Patties Pies-1 Sonic Log. 1:200
            BASIN = GIPPSLAND
         ONSHORE? = Y
        DATA_TYPE = WELL
    DATA_SUB_TYPE = WELL_LOG ·
      DESCRIPTION = Patties Pies-1
                    HALS-BHC-TLD-MCFL-CALI-CNL-GR-SP
                    HALS-Sonic-PEX Log. 1:200. By
                    Schlumberger for Lakes Oil N.L. March
          REMARKS =
     DATE_WRITTEN = 22-MAR-2003
   DATE_PROCESSED =
    DATE_RECEIVED =
    RECEIVED_FROM = Lakes Oil N.L.
       WELL_NAME = Patties Pies-1
       CONTRACTOR = Schlumberger
           AUTHOR =
       ORIGINATOR = Lakes Oil N.L.
        TOP_DEPTH = 83
     BOTTOM_DEPTH = 439
   ROW_CREATED_BY = DH00_SW
(Inserted by DNRE - Vic Govt Mines Dept)
```

## PE613641

This is an enclosure indicator page.

The enclosure PE613641 is enclosed within the container PE909989 at this location in this document.

The enclosure PE613641 has the following characteristics: ITEM\_BARCODE = PE613641 CONTAINER\_BARCODE = PE909989 NAME = Patties Pies-1 Sonic Log. 1:500 BASIN = GIPPSLAND ONSHORE? = YDATA\_TYPE = WELL DATA\_SUB\_TYPE = WELL\_LOG DESCRIPTION = Patties Pies-1 HALS-BHC-TLD-MCFL-CALI-CNL-GR-SP HALS-Sonic-PEX Log. 1:500. By Schlumberger for Lakes Oil N.L. March 2003 REMARKS = DATE\_WRITTEN = 22-MAR-2003 DATE\_PROCESSED = DATE\_RECEIVED = RECEIVED\_FROM = Lakes Oil N.L. WELL\_NAME = Patties Pies-1 CONTRACTOR = Schlumberger AUTHOR = ORIGINATOR = Lakes Oil N.L.

(Inserted by DNRE - Vic Govt Mines Dept)

TOP\_DEPTH = 83
BOTTOM\_DEPTH = 439
ROW\_CREATED\_BY = DH00\_SW