Reeves

PDS CNS
GR CAL
1:200

DEPT. NAT. RES. & ENV.
PE910020

COMPANY	Lakes Oil N.L
WELL	Wombat-2
FIELD	Wombat
PROVINCE/COUNTY	
COUNTRY/STATE	Australia/Victoria
LOCATION	38deg22'06.0"S, 147deg08'30.6"E

LSD	SEC	TWP	RGE	Other Services
				MRS DLS CSS SP

API Number

Permit Number PEP157

Permanent Datum AMSL , Elevation 0.00 metres

Log Measured From RT; 23.65 metres above Permanent Datum

Drilling Measured From RT

Elevations:

KB		metres
DF	23.65	metres
GL	20.00	metres

Date	23-Apr-2004		
Run Number	S2, R1		
Depth Driller	1550.20	metres	
Depth Logger	1550.50	metres	
First Reading	1549.50	metres	
Last Reading	1350.00	metres	
Casing Driller	1359.00	metres	
Casing Logger	1359.00	metres	
Bit Size	8.50	inches	
Hole Fluid Type	FLC 2000		
Density / Viscosity	10.20 lb/USg		
PH / Fluid Loss	9.50	6.40 ml/30Min	
Sample Source	Pit		
Rm @ Measured Temp	0.271 @ 19.5	ohm-m	
Rmf @ Measured Temp	0.247 @ 18.0	ohm-m	
Rmc @ Measured Temp	0.301 @ 18.9	ohm-m	
Source Rmf / Rmc	Press	Filter	
Rm @ BHT	0.152 @ 51.8	ohm-m	
Time Since Circulation	7.5 Hrs		
Max Recorded Temp	51.80	deg C	
Equipment Name	Super Combo		
Equipment / Base	1022	Roma	
Recorded By	John Kokonas		
Witnessed By	Lou Devattimo		
Drilling Rig	Hunt Rig #2		

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
12.125	0.000	1363.000
8.500	1363.000	1550.200

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
	9.625	0.000	1359.000	36.00

REMARKS

Suite 2, Run 1

DLS ran with two 1.5" standoff sets.
CSS ran with two 1.5" standoff sets.
CNS ran eccentralised with a Dual Bowspring Eccentraliser and an Intersonde Crank.

PDS corrected for borehole size, mud density and mud filtrate density.
CNS corrected for borehole size, mud density and mud salinity.

Open Hole volume from TD to casing = 8.0 m3
Annular Hole volume with 5.5" casing = 5.1 m3

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

Main Log

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Lakes\PDS CNS\Main Log.dta
System Configuration Dates: Logged 09-SEP-2003: Plotted 25-JUN-2003:

Plotted on 23-APR-2004 13:29
Recorded on 23-APR-2004 06:05

Timing Marks every 60.0 sec

PNS Gamma Ray
API
0 100 200
200 300 400

Density Caliper
inches
6 11 16

DLS Gamma Ray
API
0 100 200
200 300 400

Microlog Caliper
inches
6 11 16

Bit Size
inches
6 11 16

Depth
in
Metres

SMTU
0 5000

Borehole
Temp in
deg C

HVI
every
0.1 cu m

Annular
Integral
every
0.1 cu m

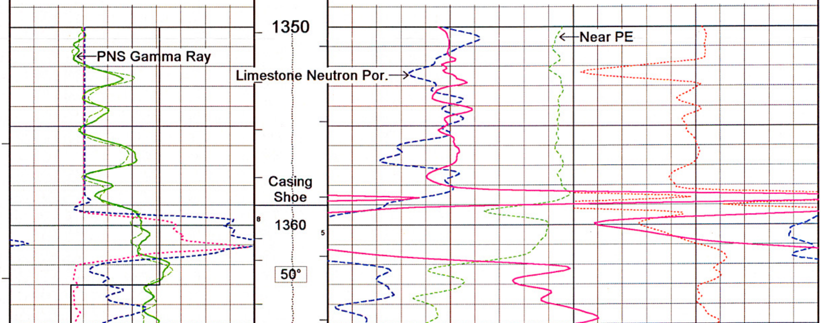
Replay
Scale
1:200

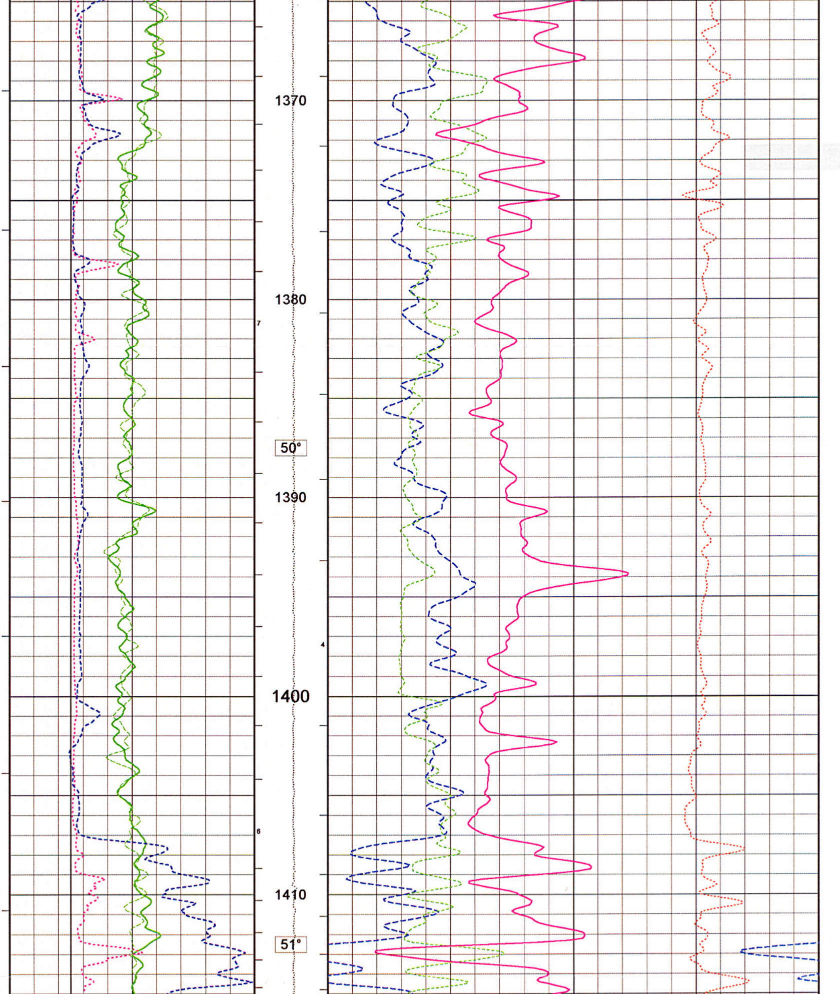
Limestone Neutron Por.
percent
45 30 15 0 -15

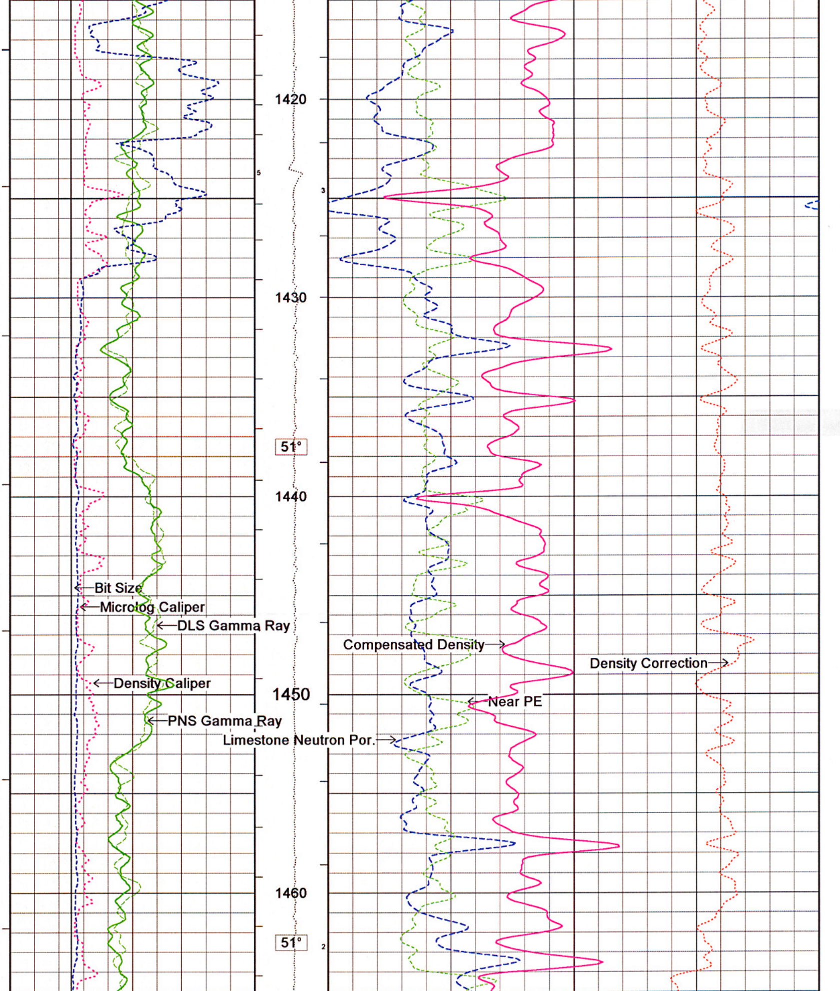
Compensated Density
grams/cc
1.95 2.20 2.45 2.70 2.95

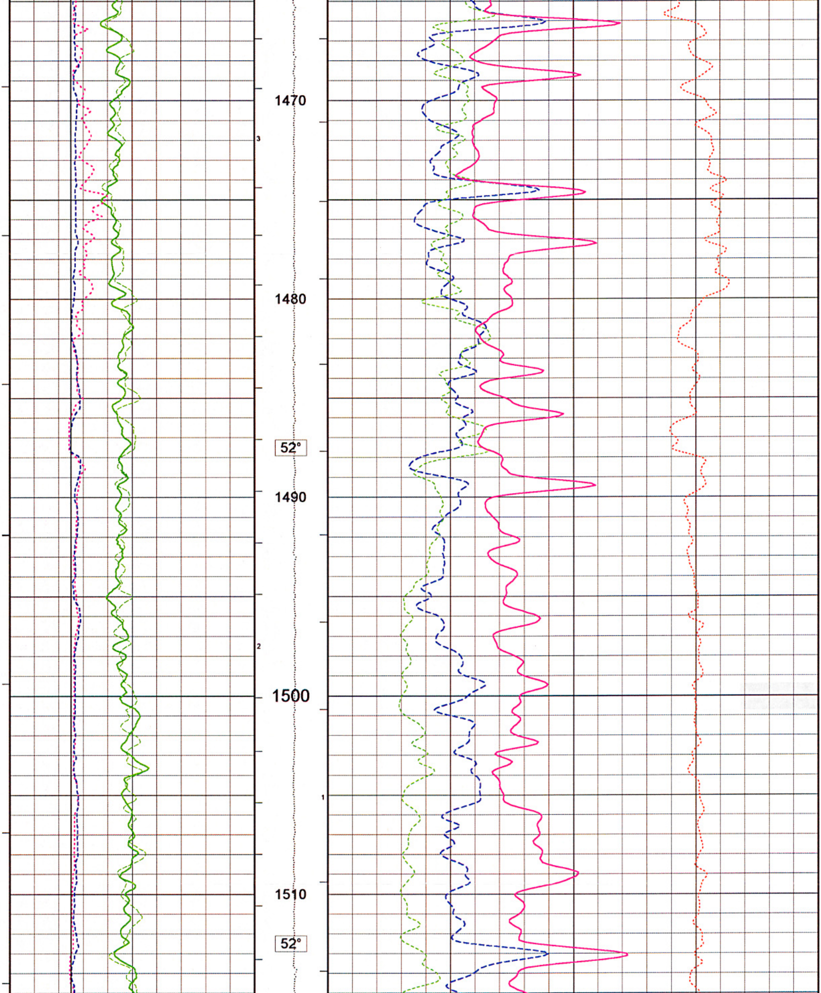
Near PE
barns/electron
0 5 10

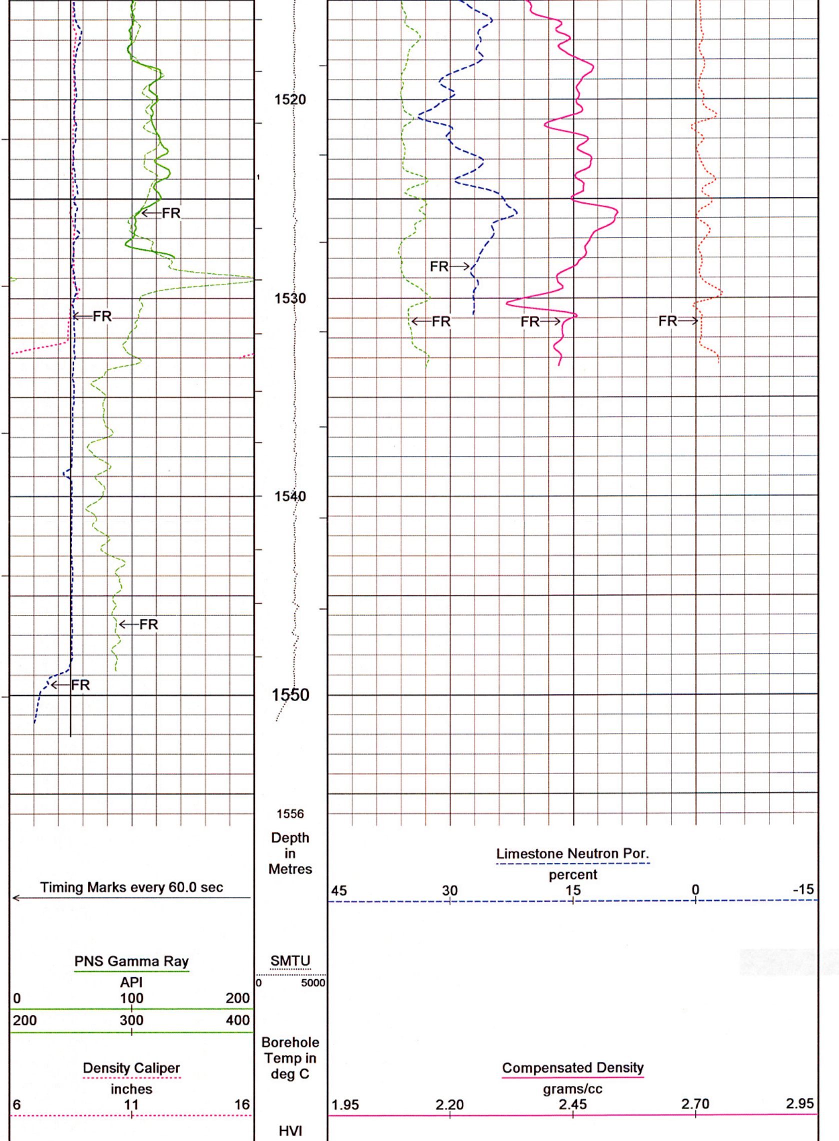
Density Correction
grams/cc
-0.25 0 0.25











DLS Gamma Ray
API
0 100 200
200 300 400

Microlog Caliper
inches
6 11 16

Bit Size
inches
6 11 16

every
0.1 cu m

Annular
Integral
every
0.1 cu m

Replay
Scale
1:200

Near PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.25 0 0.25

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Lakes\PDS CNS\Main Log.dta
System Configuration Dates: Logged 09-SEP-2003: Plotted 25-JUN-2003:

Plotted on 23-APR-2004 13:29
Recorded on 23-APR-2004 06:05

↑ Main Log ↑

↓ Repeat ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Lakes\PDS CNS\Repeat.dta
System Configuration Dates: Logged 09-SEP-2003: Plotted 25-JUN-2003:

Plotted on 23-APR-2004 13:29
Recorded on 23-APR-2004 05:45

← Timing Marks every 60.0 sec

PNS Gamma Ray
API
0 100 200
200 300 400

Density Caliper
inches
6 11 16

DLS Gamma Ray
API
0 100 200
200 300 400

Microlog Caliper
inches
6 11 16

Depth
in
Metres

SMTU
0 5000

Borehole
Temp in
deg C

HVI
every
0.1 cu m

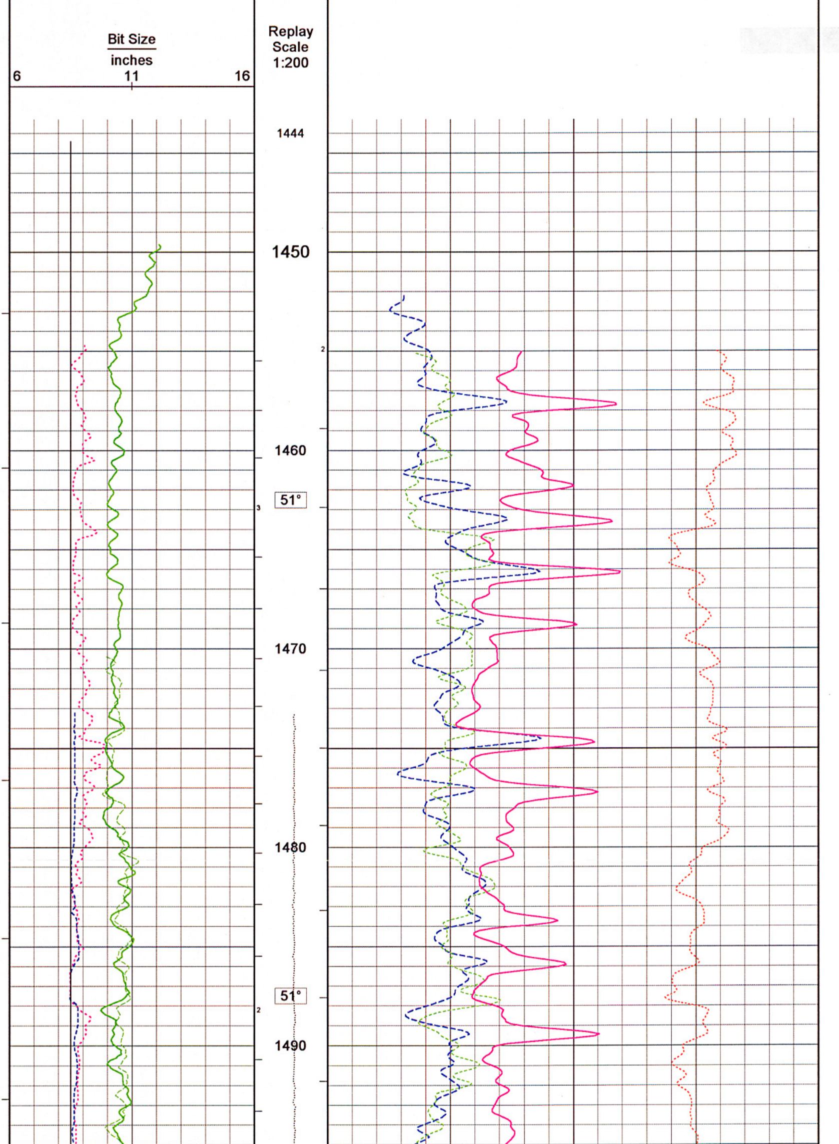
Annular
Integral
every
0.1 cu m

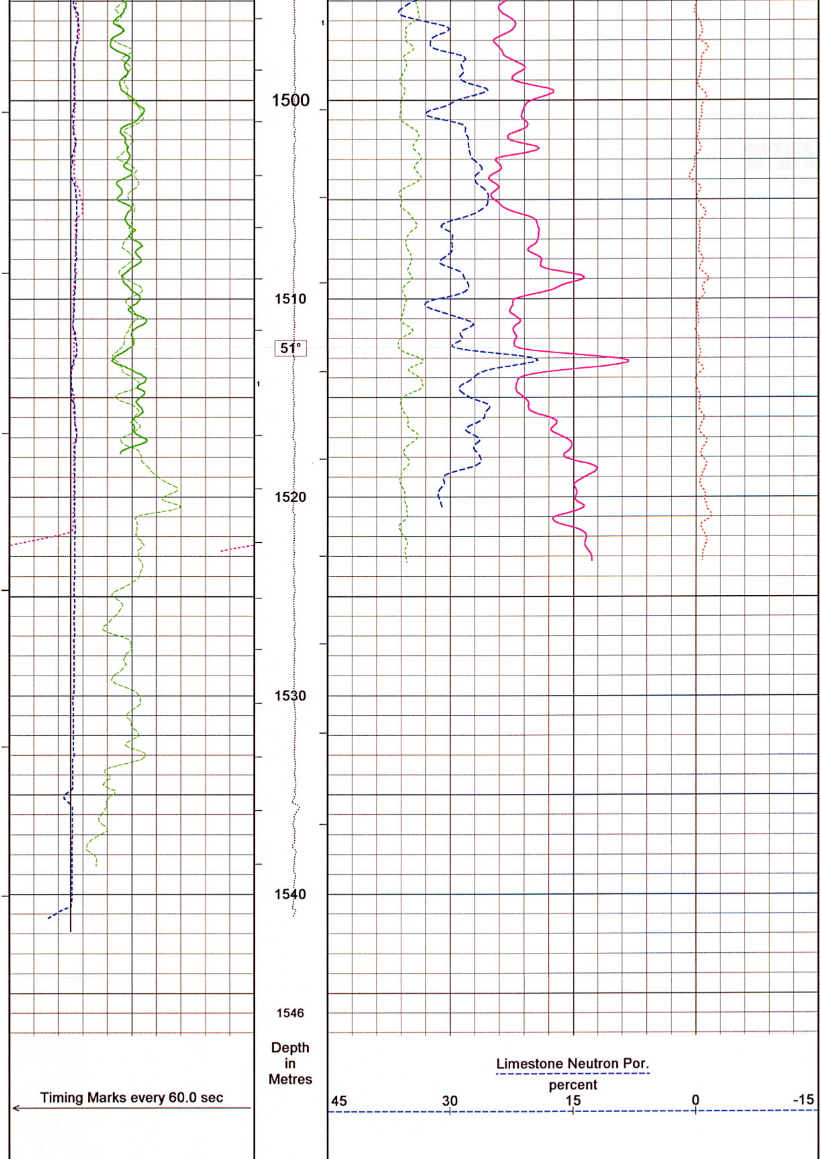
Limestone Neutron Por.
percent
45 30 15 0 -15

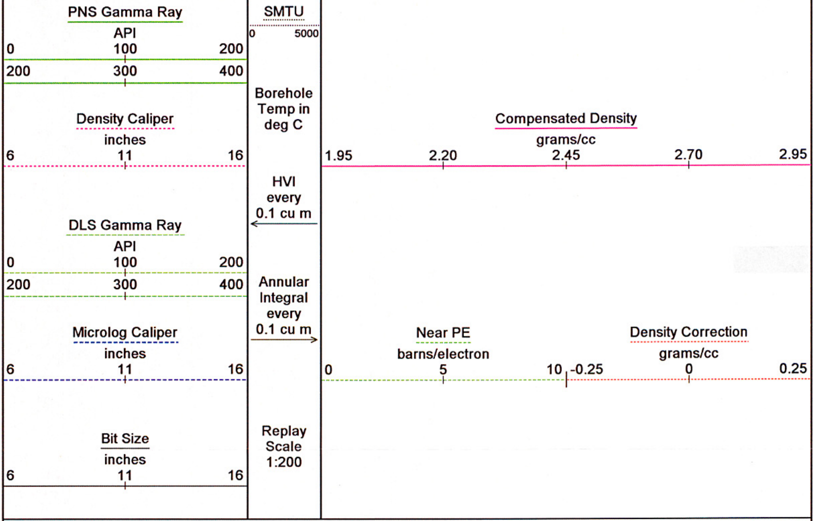
Compensated Density
grams/cc
1.95 2.20 2.45 2.70 2.95

Near PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.25 0 0.25







Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 23-APR-2004 13:29
Filename: C:\Lakes\PDS CNS\Repeat.dta	Recorded on 23-APR-2004 05:45
System Configuration Dates: Logged 09-SEP-2003: Plotted 25-JUN-2003:	

↑ Repeat ↑

BEFORE SURVEY CALIBRATION

C:\Lakes\PDS CNS\Main Log.dta

General Constants All 000

General Parameters		
Mud Resistivity	0.271	ohm-metres
Mud Resistivity Temperature	19.500	degrees C
Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Microlog Caliper	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	None	
Rwa Parameters		
Porosity used	Limestone Sonic Porosity	
Resistivity used	Deep Laterolog	
RWA Constant A	0.610	
RWA Constant M	2.150	

Gamma Calibration CNS 067

Field Calibration on 22-APR-2004 10:08

	Measured	Calibrated (API)
Background	21	19
Calibrator (Gross)	1717	1589
Calibrator (Net)	1697	1570

Gamma Constants CNS 067

Gamma Calibrator Number	**42**	
Mud Density	**1.22**	**gm/cc**
Caliper Source for Processing	**Density Caliper**	
Tool Position	**Eccentred**	
Concentration of KCl	**5.70**	**kppm**

Neutron Calibration CNS 067

Base Calibration on 9-APR-2004 13:53
Field Check on 22-APR-2004 10:16

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3080	378	2930	356
Ratio	8.159		8.230	

Field Calibrator at Base

	Calibrated (cps)	
	225	1272
Ratio	0.177	

Field Check

	Calibrated (cps)	
	226	1260
Ratio	0.180	

Neutron Constants CNS 067

Neutron Source Id	**NSN-D-526**	
Neutron Jig Number	**30**	
Epithermal Neutron	**No**	
Caliper Source for Processing	**Density Caliper**	
Stand-off	**0.00**	**inches**
Mud Density	**1.22**	**gm/cc**
Limestone Sigma	**7.10**	**cu**
Sandstone Sigma	**4.26**	**cu**
Dolomite Sigma	**4.70**	**cu**
Formation Pressure Source	**None**	
Formation Pressure	**N/A**	**kpsi**
Temperature Source	**Borehole Temperature Raw**	
Temperature	**20.00**	**degrees C**
Mud Salinity	**31.00**	**kppm**
Formation Fluid Salinity Source	**None**	
Formation Fluid Salinity	**N/A**	**kppm**
Barite Mud Correction	**Not Applied**	

SP Calibration DLP 005

Field Calibration on 9-APR-2004 10:50

	Measured	Calibrated (mV)
Reference 1	93.9	92.0
Reference 2	-94.7	-92.0

SP Constants DLP 005

Interference Rejection	**50 Hz**

Gamma Calibration DLE 005

Field Calibration on 22-APR-2004 10:38

	Measured	Calibrated (API)
Background	27	20
Calibrator (Gross)	2009	1522
Calibrator (Net)	1982	1502

Gamma Constants DLE 005

Gamma Calibrator Number	**42**	
Mud Density	**1.22**	**gm/cc**
Caliper Source for Processing	**Microlog Caliper**	
Tool Position	**Centred**	
Concentration of KCl	**5.70**	**kppm**

Laterolog Calibration DLE 005

Base Calibration on 9-APR-2004 10:27
Field Check on 22-APR-2004 10:33

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Shallow	0.0	1001.1	0.0	1430.0
Deep	0.0	995.8	0.0	820.0
Groningen	0.0	12.0	0.0	820.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Shallow	113.7	113.6
Deep	65.5	65.5
Groningen	5475.1	5474.9

Laterolog Constants DLE 005

Squasher Start	40000	ohm-m
Shallow Laterolog K Factor	1.4300	
Deep Laterolog K Factor	0.8200	
Groningem Laterolog K Factor	0.8200	
Voltage Reference	Armour	
Deep Drive	On	
Interference Rejection	50 Hz	

Caliper Calibration MRS 008

Base Calibration on 9-APR-2004 11:12
Field Calibration on 22-APR-2004 10:32

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	68352	8.01
2	109824	9.76
3	162560	11.82
4	223821	13.89
5	305920	16.01
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.01	8.01

Micro Laterolog Calibration MRS 008

Base Calibration on 9-APR-2004 10:58
Field Check on 23-APR-2004 05:23

Base Calibration

Measured		Calibrated (ohm-m)	
Ref 1	Ref 2	Ref 1	Ref 2
0.0	9874.0	0.0	230.0

Base Check (ohm-m)	Field Check (ohm-m)
11.7	11.6

Micro Laterolog Constants MRS 008

Micro Laterolog K Factor	0.0230	
Standoff Offset	N/A	inches

Caliper Calibration PDS 067

Base Calibration on 9-APR-2004 15:02
Field Calibration on 22-APR-2004 10:22

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	6043	5.99
2	5110	8.01
3	4322	9.79
4	3372	11.82
5	2395	13.89
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.90	8.01

Photo Density Calibration PDS 067

Base Calibration on
Field Check on 22-APR-2004 10:21

Density Calibration

Base Calibration

	Measured Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) Far
Reference 1	58526	22620	22668	7411
Reference 2	34366	2786	13306	1767
Field Check at Base				
	1227.1	711.4		
Field Check				
	1224.4	709.5		

PE Calibration

Base Calibration

	Near WS	Measured Near WH	Near Ratio	Far WS	Measured Far WH	Far Ratio	Calibrated Near Ratio	Calibrated Far Ratio
Background	144	998		73	578			
Reference 2	3582	21660	0.166	439	1785	0.303	0.159	0.371
Reference 3	2561	20570	0.123	309	1720	0.206	0.123	0.250
Field Check at Base								
	144.2	997.6		73.3	578.2			
Field Check								
	145.0	996.4		72.8	575.9			

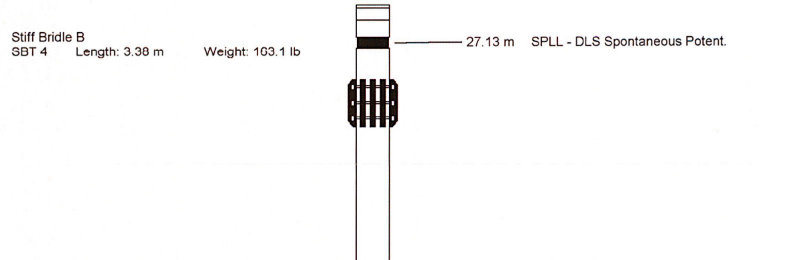
Density Constants PDS 067

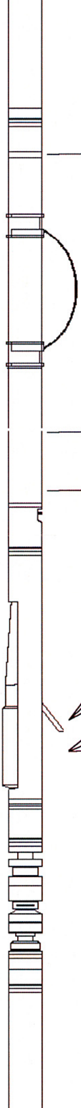
Density Source Id	NSD-073	
Nylon Calibrator Number	1022	
Aluminium Calibrator Number	1022	
Aluminium/Fe Calibrator Number	1022	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.22	gm/cc
Mud Density Z/A Correction	1.11	
Mud Filtrate Density	1.02	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc

Matrix Density (gm/cc)	Depth (m)
2.71	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	

DOWNHOLE EQUIPMENT

C:\Lakes\PDS CNS\Main Log.dta


Stiff Bridle B
SBT 4 Length: 3.38 m Weight: 163.1 lb
27.13 m SPLL - DLS Spontaneous Potent.



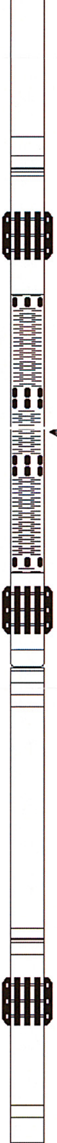
Tool	Code	Length	Weight
Compensated Neutron Sub	CNS 67	Length: 3.87 m	Weight: 227.1 lb
Photo Density Sub	PDS 67	Length: 2.74 m	Weight: 253.5 lb
Inter-Tool Adaptor B (37-7)	ITA 101	Length: 0.25 m	Weight: 39.7 lb
Knuckle Joint B (7-7)	ISC 2	Length: 0.76 m	Weight: 19.8 lb
Inter-Tool Adaptor A (7-37)	ITA 3	Length: 0.31 m	Weight: 46.3 lb
Sonic Processing Sub	WPS 11	Length: 2.63 m	Weight: 92.6 lb

23.77 m GPDE - Borehole Corr. PNS Gamma

21.08 m NPRL - Limestone Neutron Por.

20.73 m BHTF - Borehole Temperature

18.60 m CAPD - Density Caliper
18.60 m HVOL - Hole Volume
18.60 m AVOL - Annular Volume
18.33 m PEDN - Near PE
18.32 m DCOR - Density Correction
18.32 m DEN - Compensated Density

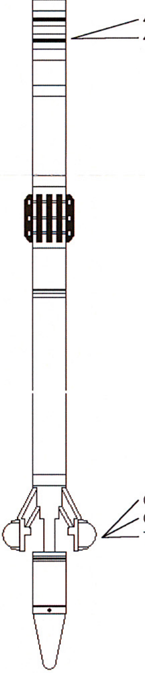


Acoustic Transducer Sub
ATS 24 Length: 4.51 m Weight: 132.3 lb

11.16 m T1R4 - Sonic T1R4
11.16 m T2R1 - Sonic T2R1
11.16 m DTCM - Delta T Compensated
11.16 m T2R3 - Sonic T2R3
11.16 m T1R2 - Sonic T1R2

Laterolog Processing Sub
DLP 5 Length: 2.52 m Weight: 169.8 lb

Laterolog Electrode Sub
DLE 5 Length: 4.29 m Weight: 160.9 lb



4.41 m SLL - Shallow Laterolog
4.41 m DLL - Deep Laterolog

Micro Resistivity Sub
MRS 8 Length: 2.69 m Weight: 101.4 lb

0.00 m MLL - Micro-laterolog
0.00 m CADF - Microlog Caliper
Tool Zero (1.03m from bottom)

Hole Finder (7-way tools)
HFS 2 Length: 0.57 m Weight: 11.0 lb

Total Length: 28.50 m Weight: 1417.6 lb

All measurements relative to tool zero.

COMPANY	Lakes Oil N.L
WELL	Wombat-2
FIELD	Wombat
PROVINCE/COUNTY	
COUNTRY/STATE	Australia/Victoria

Elevation Kelly Bushing		metres	First Reading	1549.50	metres
Elevation Drill Floor	23.65	metres	Depth Driller	1550.20	metres
Elevation Ground Level	20.00	metres	Depth Logger	1550.50	metres

Reeves

PDS CNS
GR CAL
1:200