LAKES OIL N.L.

A.C.N. 004 247 214

TRIFON No. 1

WELL COMPLETION REPORT

PEP 137 - VICTORIA

by

D.A. SHORT & J.N. MULREADY

LAKES OIL N.L.

TRIFON No. 1

WELL COMPLETION REPORT

PEP 157 - VICTORIA

by

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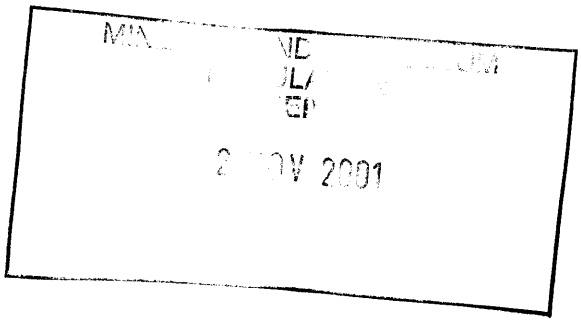

Lakes Oil N.L.
A.C.N. 004 247 214
Level 11,
500 Collins Street
MELBOURNE 3000

February, 2001

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PE 908901 Colour Plot

SEASPRAY
8321-3-1
~~PE 908901 DOGY~~
908901_006Y

Trifon No. 1

Gangel No. 1

Boards Road
Prices Road
Carr Road
Hawkins Road
McNeilly Road
Seaspray Road
Creek
Drain
"Curnamunya"
"Burong"
BM
LAKE REEVE
Depth and extent varies greatly
PARK
GOLDEN BEACH 19 km
LAKES
THE ISLAND
Shoreline
High water mean
Sand dunes
SCALE 1:25 000
METRES 0 500 1000 1500 2000 METRES
5762
5761
5760
5759
5758
5756

Figure

1.0 SUMMARY

Trifon-1 was located in PEP 157 of the Gippsland Basin, approximately 25 kilometres south south-east of Sale. The closest wells were North Seaspray-1, 2 & 3 approximately 1.5 kilometres to the northeast and Burong-1 approximately 0.9 kilometres to the south southeast.

The well was drilled to evaluate the hydrocarbon potential of a detached alluvial fan identified on seismic within the Strzelecki Formation. The Secondary targets were thin meander belt sands in the upper Strzelecki Formation which were gas productive in North Seaspray-1&3.

Trifon-1 spudded on December 5th, 2000 and surface hole (445 mm./17.5") was drilled to 261m. Surface casing (340 mm./13-375") was set at 260.6m. and 311 mm. (12.25") hole was drilled to 1233m Lost circulation was encountered while drilling the coals in the top Latrobe Group. The coal gave a maximum of 358 units of gas.

After logging, intermediate casing (244mm./ 9.625") was set in the top Strzelecki at 1232.0m. and the well was then drilled (216mm. hole) to a total depth of 2570m. which was reached on 27th December 2000. Schlumberger logs were run at 2152m. and at total depth, 2570m. Four drill stem tests were run in the Strzelecki Formation and the maximum gas flow recorded was 23mcfd from DST#1. DSTs#3&4 were run after reaching total depth and flowed water with gas at a rate too small to measure.

The well was then plugged with plugs (1) across the 244mm. casing shoe and (2) at surface. The rig was released on 30th December 2000.

2.0 WELL HISTORY

2.1 General Data

2.1.1	Well Name and Number	:	TRIFON No.1
2.1.2	Location	:	Latitude : 38°18'15.54"S Longitude : 147°11'29.80"E Easting : 516 753.18 Northing : 5 760 387.27 Seismic : VP 1757 Line : GH 85-05
2.1.3	Elevations	:	G.L. : 25.0m. A.S.L. K.B. : 29.9m. A.S.L.
2.1.4	Petroleum Tenement	:	PEP 157
2.1.5	Name of Operator	:	LAKES OIL N.L. A.C.N. 004 247 214 11th Level, 500 Collins Street, MELBOURNE 3000
2.1.6	Other Participants	:	None
2.1.7	Date Drilling Commenced:		1330 hours 05th December, 2000
2.1.8	Date Drilling Completed	:	0530 hours 27th December, 2000
2.1.9	Date Rig Released	:	1900 hours 30th December, 2000
2.1.10	Drilling Time to T.D.	:	25.2 days
2.1.11	Total Depth	:	Driller : 2570.0m. Logger : 2570.0m. (Extrapolated)
2.1.12	Status	:	Plugged and abandoned.

AGD66 see Appendix 6

2.2 Rig Data

2.2.1	Drilling Contractor	:	O.D.&E. Pty. Limited 8th Level, 9 Bligh Street, SYDNEY NSW 2000
2.2.2	Rig	:	Number 30 Make - Ideco Rated - 3,350m. / 11,000ft.
2.2.3	Draw Works	:	Type - Ideco Hydrair 725D Drive System - 4 Caterpillar 3412-PCTA Transmission - SCR Drill Line - 28mm/1-1/8" (Diesel- electric SCR Brown Boveri 600 volt - 3 phase 60 Htz)
2.2.4	Mast	:	Type - Draco -cantilever Height - 38.7 metres/127 ft Capacity - 227,678 kg/510,000 lbs
2.2.5	Substructure	:	Floor Height - 4.6 metres / 15.1 feet KB Height - 4.9 metres / 16.1 feet
2.2.6	Rotary Table	:	Type - Oilwell A 20.5"
2.2.7	Hook Block	:	Type - Crosby McKissock Capacity - 250 tonnes / 250 tons (2240lb)
2.2.8	Swivel	:	Type - Oilwell PC-300
2.2.9	Mud Pumps (2)	:	Type - Gardner-Denver PZ-8 Power - EMD Output - 800 hp
2.2.10	Mud System	:	Tanks - 800-bbl system
2.2.11	Shale Shaker	:	Type - DFE - SCR01 Linear Motion
2.2.12	Desander	:	Type - None
2.2.13	Desilter	:	Type - Harrisburg 12 cone.

2.2.14	Ram Type BOP	:	Type - Shaffer LWS Bore Size - 346mm / 13.625" Rating - 34,475 kpa/5000 psi
2.2.15	Annular Type BOP	:	Type - Hydril Bore Size - 346mm / 13.625" Rating - 21,000 kpa/3000 psi
2.2.16	Accumulator	:	Type - Wagner 130-160 3 BND
2.2.17	Choke Manifold	:	Size - 1 x 5000psi with McEvoy and 1x3" positive & 1 Swaco 3"superchoke
2.2.18	Drill Pipe	:	Size - 4.5" (2750 metres) Weight - 16.6 lb/ft Grade - G Connection - 4.0" IF Size - 4.5" (250 metres) Weight - 16.6 lb/ft Grade - E Connection - 4.0" IF
2.2.19	HW Drill Pipe	:	Size - 4.5" (15 joints) Weight - 45.0 lb/ft Connection - 4.0" IF
2.2.20	Drill Collars	:	Number/Size - 24 x 6 1/4" Connection - 4.0" IF

2.3 Drilling Data

2.3.1 The following is the daily operations summary for Trifon-1. It has been compiled from the tour sheets and daily drilling reports. Onsite drilling supervision for Lakes Oil N.L. was provided by B. Speechly. Further details are given in the time/depth curve (Fig. 2) and the time analysis chart (Fig. 3).

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	Depth	Operation
05.12.00	229.0m.	Spud - Drill ahead to 50m. - Circulate & survey 3/4 deg. at 38m. - Drill ahead to 79m. - Circulate & survey, misrun at 66.5m. - Drill ahead to 106m. - Circulate & survey 1/4 deg. at 94m. - Drill ahead to 135m. - Circulate & survey 0 deg. at 124m. - Drill ahead to 201m. - Circulate & survey 1/4 deg. at 189m. - Drill ahead to 229m.
06.12.00	261.0m.	Drill ahead from 229m to 261m. - Circulate & condition the well (carbide lag indicated minimum 8% overgauge) - Survey 0.75 deg. at 258m. - Wiper trip to the 8" collars - No fill on bottom - Circulate & condition the well - Circulate Enerseal LCM to the well - POH to run casing - Rig to run casing - Hold pre-run safety meeting - Pick up & run 23 joints of J-55, 54.5lb/ft - BTC 13-3/8" casing - Head up - Circulate & reciprocate casing - Hold pre cementing safety meeting - Mix & pump 26 cubic metres of class A cement - Treat the first 13 cubic metres of cement with Mica (M) - Bump plug at 2204 hours - with 14700 kPa - WOC
07.12.00	262.0m.	WOC - Slack off - Head down - Cut 20" conductor & landing joint collar - - Lay out - Centralize 13-3/8" with chocks - Install Bradenhead & torque up - Nipple up BOP - Top up annulus with 1 cubic metres of neat class A cement.

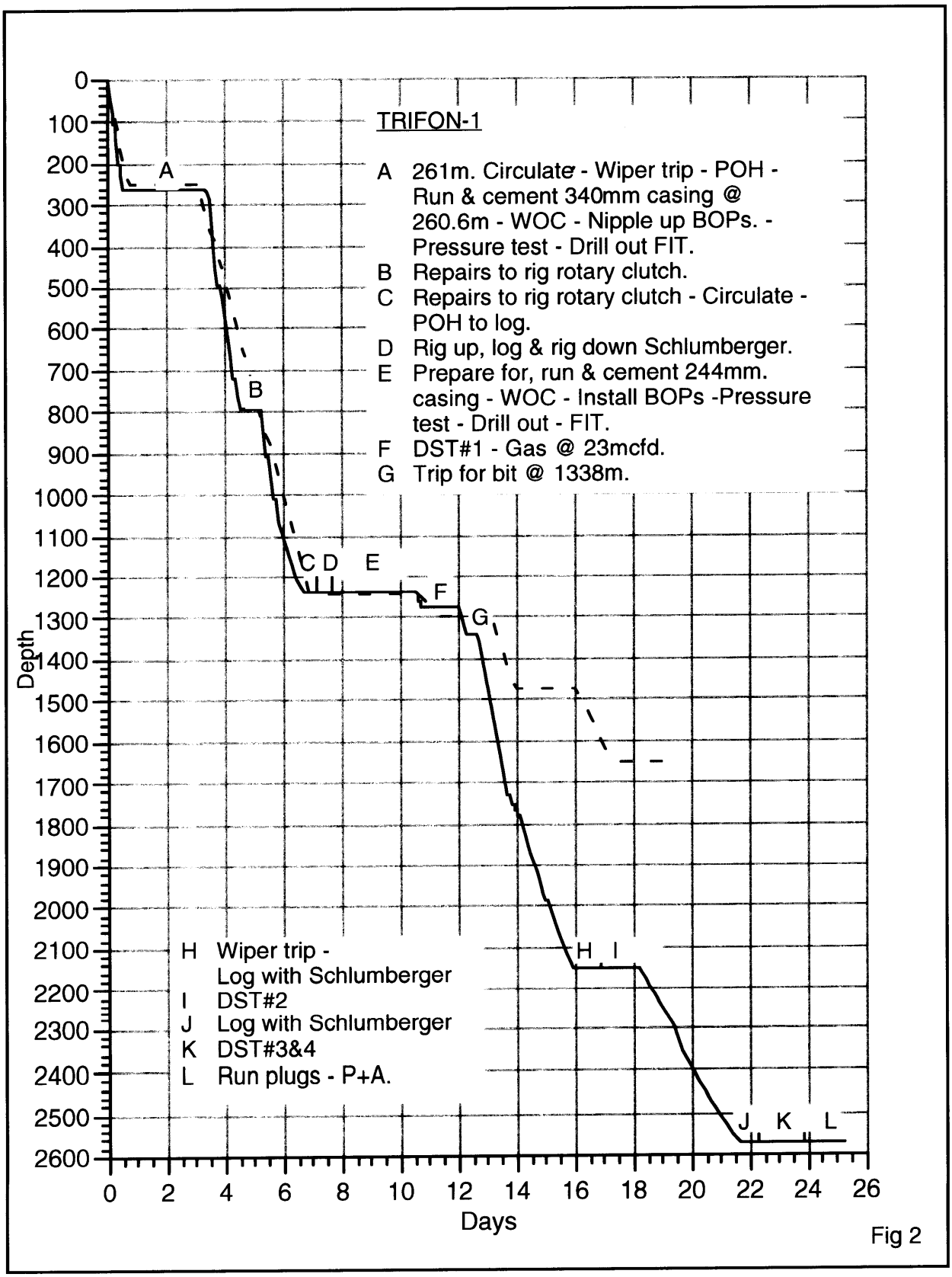
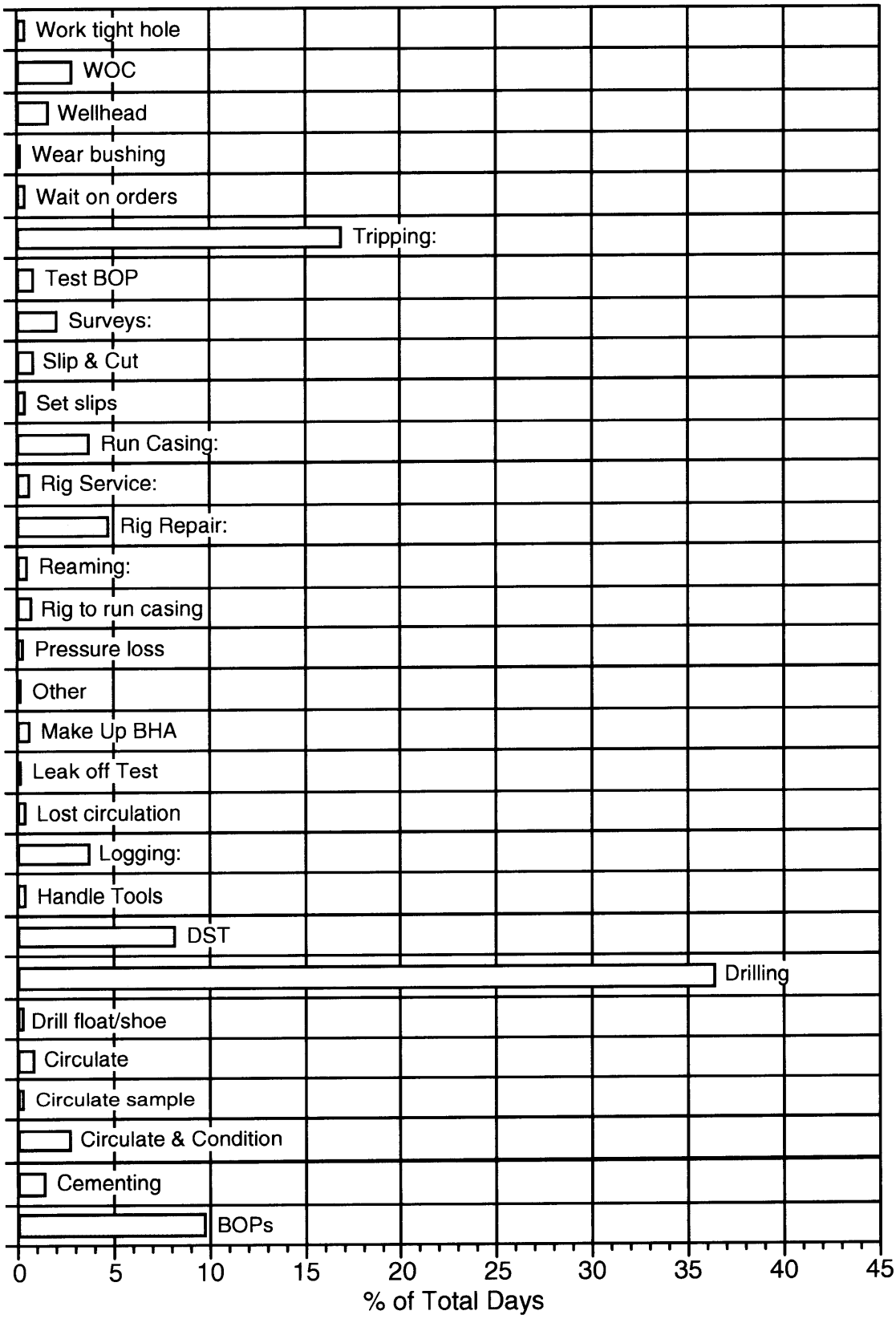

TRIFON-1
A 261m. Circulate - Wiper trip - POH - Run & cement 340mm casing @ 260.6m - WOC - Nipple up BOPs. - Pressure test - Drill out FIT.
B Repairs to rig rotary clutch.
C Repairs to rig rotary clutch - Circulate - POH to log.
D Rig up, log & rig down Schlumberger.
E Prepare for, run & cement 244mm. casing - WOC - Install BOPs -Pressure test - Drill out - FIT.
F DST#1 - Gas @ 23mcfd.
G Trip for bit @ 1338m.
H Wiper trip - Log with Schlumberger
I DST#2
J Log with Schlumberger
K DST#3&4
L Run plugs - P+A.
Depth
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
0
2
4
6
8
10
12
14
16
18
20
22
24
26
Days

Fig 2

08.12.00	289.0m.	Continue to nipple up BOPs installing the HCR / kill lines & choke manifold - Install the ram blocks - Weld in centralizing chocks to the conductor - Make up flow nipple & flow line dresser sleeve - Pressure test choke manifold, kill & choke line valves to 200psi for 5 minutes & 2000psi for 10 minutes - Prepare new BHA - Make up BHA#2 pendulum assembly & RIH - Tag cement top at 295.5m. - Pressure test pipe rams - Hydril, inside BOP & stand pipe to 200psi & 2000psi - Attempt to rebuild Stab - in valve - Source new valve - Drill out float & shoe track - Drill to 268m. - Circulate & leak off test - 18.7ppg - Equivalent - Drill ahead from 268m to 289m.
09.12.00	765.0m.	- Drill to 365m. - Circulate & survey @ 353m. - misrun - Drill to 374m. - Circulate & survey @ 362m. - 0 deg - Drill to 496m. - Rig repairs to mud pump #2 valve - Drill to 527m. - Circulate & survey - Drill to 659m. - Rig repairs to mud pump #1 - Drill to 717m. - Circulate sample - Drill to 765m. - Circulate & survey @ 751m. - Misrun
10.12.00	907.0m.	Drill ahead from 765m to 774m. - Circulate & survey @ 762m. - 3/4 deg - Drill to 793m. - Rotary clutch failure - POH to shoe - Hole tight 440m to 420m. - Rig service - POOH & lay out bit - Change out high gear clutch - Make up Bit #3 & RIH to shoe - Continue to RIH to 783m. - Work & jar free stuck pipe at 783m. - Ream 762m. - 793m. - Drill ahead to 907m.
11.12.00	1206.0m.	- Circulate & survey @ 895m. - 1 deg - Drill to 1009m. - Rig service - Drill to 1065m. - Circulate & survey @ 1053m. - 1 deg - Drill to 1206m.



TRIFON-1 - Time Breakdown Chart

Figure 3

12.12.00 1233.0m. - Drill 12 1/4" hole to 1233m. - Pump barite slug & POH to 750m. - RIH to 1211m. - Wash to 1233m. - Circulate & condition well - Survey @ 1220m. - 0.5 deg - POH - Lay out 12-1/4" stabilizer - Rig up Sclumberger - Run Platform Express - Pick up bit #2RR & RIH for clean out trip.

13.12.00 1233.0m. - RIH to shoe - Slip 33' drill line - RIH to 1211m. - Lay out top single - Pick up kelly & break circulation - Ream 1211m to 1233m. - Circulate & condition well - Pump slug - Strap out of hole - Lay out 3 x 8" drill collars - Rig to run casing - Hold safety meeting & review relevant JSA's - Run 9-5/8" casing.

14.12.00 1233.0m. - Run 106 joints of 9-5/8" casing - Head up casing circulating swedge - Circulate - Lost returns - Lose 160 bbls - mud to the well - Build mud volume.& work drill string - Regain circulation - Circulate & work casing waiting on cement - Head up cement head - Safety meeting - Pressure test Halliburton lines to 3000psi - Circulate & work casing waiting on cement - Load plugs - Pick up & pump 32 cubic metres of class A cement into the casing - Displace with the rig pumps losing & regaining circulation frequently (total losses downhole approx 90 bbl) - Bump plug at 1541 hours with 2200psi - Hold 10 minutes - Rig down cementing equipment - Set slip & seal assembly & set in tension with 120,000lbs - Nipple down & lift BOP - Rough cut the 9-5/8" casing.

15.12.00 772.0m. Cut & dress 9-5/8" casing landing joint - Remove spacer spool & DSA - Dress & bevel 9-5/8" casing stub - Pick up & make up 9-5/8" WG-22 BP 13 5/8" 3000lbs x 11" 3000lbs flanged casing spool - The WG PE secondary seal hung up on the bevel - Remove spool, remove WG PE seal & inspect for damage - Re bevel casing stub at a steeper angle - Pick up & nipple up the 9-5/8" WG-22 casing spool -

		Pressure test primary & secondary casing seals to 2200psi for 10 minutes - Nipple up BOP & fit flow line - Pressure test BOP & choke manifold to 300psi for 5 minutes & 3000psi for 10 minutes - Pick up & make up the wear bushing running tool - Install the wear bushing - Make up Bit #4 pendulum assembly & run in hole picking up & servicing the recut collars & hevi-wate drill pipe - RIH with with bit #4 assembly - Tag cement top at 1212m.
16.12.00	1274.0m.	Pressure test pipe rams, hydril, inner & outer kill valves to 300psi for 5 minutes & 3000psi for 10 minutes - Drill out float & shoe - Drill to 1238m. - Circulate & leak off test - Drill ahead to 1258m. - Circulate sample - Drill ahead to 1274m. - Circulate sample - Strap out of hole for DST #1, conventional off bottom 1200m to 1274m. - Pick up & make up DST #1 string - RIH with DST #1 string - Stabilized flow 23mcfd gas.
17.12.00	1338.0m.	- Run DST #1 1206m. - 1274m. - Shut in for final buildup pressure – Unseat packer & pull free - Drop bar & reverse circulate out 18.5 bbl - gas cut mud - Pump slug - Head down - Pull out of hole with DST #1 assembly flow checking every 10 stands - Break & lay out DST string - Make up bit #4 RR pendulum assembly & run in the hole to 1119m. - Slip 33' drill line - Continue to RIH to 1252m. - Break circulation - Wash to 1274m. - Circulate out gas cut mud - Drill to 1311m. - Rig repair - Work on mud pumps - Drill to 1320m. - Work tight hole at 1311m. - Drill to 1338m. - Penetration rate dropped to zero - Mix & pump slug - POOH to check bit - Rig repair - Draw-works - Continue to POOH.
18.12.00	1625.0m.	POOH to inspect the bit - Lay out bit #4RR (locked cone) - Make up bit #5 & RIH - Break circulation & wash 1318m to 1338m. - Drill ahead to 1510m. - Circulate & survey 1498m. - 3/4 deg - Drill to 1625m.

19.12.00	1871.0m.	Drill to 1729m. - Rig service - Drill to 1757m. - Circulate & survey 1745m. - misrun - Lay out 9 singles & run 3 work stands (out of drill pipe) - Circulate & survey 1745m. - misrun - Drill to 1767m. - Circulate & survey 1754m. - 2 deg - Drill 1776m. - Work tight hole at 1769m. - Drill to 1871m.
20.12.00	2060.0m.	Drill to 1966m. - (tight connections 1881m., 1890m., 1909m., 1947m.) - Work tight hole 1960m. - Drill to 1985m. - Rig repair - Replace broken geolograph line - Drill ahead to 2060m.
21.12.00	2152.0m.	Drill to 2109m. - Rig service - Drill to 2152m. - Circulate - Survey 2144m. - 4 1/4 deg - Wiper trip to the shoe - Rig repair - SCR shutdown - Continue to POOH to shoe - Slip & cut drill line - Rig repair - Brake cooling hose - RIH - Wash 20m to bottom - 1m. - fill - Circulate & condition well - Pump slug - Strap out of hole flow checking every 10 stands.
22.12.00	2152.0m.	Continue to strap out of the hole - 1.8m difference strap to tally - Rig up Schlumberger - Run #1 Platform Express (HALS, BHC & Sonic) - Run #2, Side Wall Cores (CST) - Make up DST #2 string, inflate straddle 1388m to 1415m. - RIH with DST #2 string - Head up - Inflate packers at 1388m. - 1415m. - No seat - Move up 1 metre - Re-inflate packers - DST #2 - 1387m. - 1414m. - Tool open 2043 hours - Flow rate RTSTM - Close tool in for buildup at 2214 hours.
23.12.00	2183.0m.	DST #2 - Continue with buildup - Unseat packers - Deflate rubbers - Pull free - Drop bar - Reverse circulate - Pump slug - Head down - POOH - Break & lay out test tools - Clean, caliper & strap new BHA - RIH drifting the pipe (DST reverse circulating knock off lugs missing) - Slip 33' drill line - Continue to RIH drifting the drill string - Break circulation & wash 19m to

		bottom - Drill ahead 2152m to 2183m. - Circulate & survey.
24.12.00	2300.0m.	Continue to survey 2170m. - 3.5 deg - Drill to 2192m. - Work tight hole at 2192m. - Lose 60 bbl - Work pumps & regain full returns - Drill ahead to 2208m. - Total lost circulation (300 bbl.) - Mix & pump LCM - Drill ahead to 2300m.
25.12.00	2354.0m.	Drill ahead to 2354m. - Rig service - Drill ahead to 2450m. - (35 bbl lost downhole at 2427m.).
26.12.00	2550.0m.	Drill ahead to 2478m. - Rig service - Drill to 2523m. - Repair cap seal - Drill to 2539m. - Repair SCR faults - Drill to 2550m.
27.12.00	2570.0m.	Drill ahead to 2563m. - Rig repair - blown weight indicator hose - Drill ahead to 2570m. - Pressure loss - Check surface equipment - POOH wet to check for a string washout - Break & lay out damaged jar (outer body parted) - Rig up Schlumberger - RIH with DLL, LLL, GR, SP, Cal - Work ledge at 2390m. - POOH - Reconfigure the standoffs.through the ledge - Run to bottom - Log up - Rig down Schlumberger - Process Logs & determine DST point - Pick up DST #3 tools (2188m. - 2218m. - logger)
28.12.00	2570.0m.	- Make up DST #3 tools (2188m. - 2218 m) - (rig tongs not biting efficiently) - RIH with BHA picking up new jar - Rig repair - Replace "O" rings in tong sensator - Continue to RIH - Rig repair - Replace blown tong sensator hose - Continue to RIH with DST #3 string - DST #3 - Head up & inflate - Lost packer seat - Move up 1m. - Re-inflate - Seat - Open tool 1014 hours - Flow zone - FTS @ 1100 (1/8" choke 30psi) - Close in for build up 1523 hours - Pull free 1647 hours - Deflate packers - POOH 2 singles for DST #4 2180m. - 2200m. - Move pup joint down 1 stand - DST #4 - Head up & inflate -

		Open tool 1810 - Close in for buildup 2021 hours - Pull free 2137 hours - Deflate packers - Drop bar - Reverse circulate out drill string - Pump slug - Head down - POOH with DST string.
29.12.00	2570.0m.	POOH with DST #4 string - Slip 33' drill line - POOH with drill pipe - Lay out HWDP, Jars & Drill collars - Break & lay out DST tools - Recover pressure charts & sealed sample from the sample chamber - Break & lay out remaining Drill collars - Pick up & make up the slotted cementing mule shoe - RIH to 1332m. - Pick up cementing swedge - Rig up lines - Circlate hole clean leaving biocide (40 litres) treated mud - Hold cementing safety meeting - Pressure test lines - Mix & spot 9 tonne class A cement at 1332m. - 1182m displacing with biocide - WOC - POOH to 926m. - WOC - Circulate drill pipe clean - WOC - POOH laying out excess drill pipe - WOC - RIH to 935m. - WOC - Wait on samples to set up.
30.12.00	2570.0m.	RIH slowly - Tag cement top @ 1209m with 10,000lb - POOH laying out drill pipe - Flush ckoke manifold, BOP & pumps - Nipple down splitting the BOP - Cut windows in the 13-3/8" casing - Cut the 9-5/8" casing - Pick up the potato masher & back out the Bradenhead - Lay out the wellhead - Break & lay out the Kelly - Dress off the 13-3/8" stump - Mix & place the surface cement plug in 9-5/8" casing - Weld a cap on the 9-5/8" casing stump - Rig released 19:00 hours on 30th. December 2000.

2.3.2 Hole Sizes and Depths :

17.50" / 445 mm. to 261.0m.
12.25" / 311 mm. to 1233.0m.
8.50" / 216 mm. to 2570.0m. - TD

2.3.3 Casing and Cementing :

Surface

Size -	13.375" / 340 mm.
Weight -	54.5lb/ft - 79.8kg/m.
Grade -	K-55
Shoe Setting Depth -	260.6m.
Quantity of Cement -	26 cubic metres "A"

Intermediate

Size -	9.625" / 244 mm.
Weight -	36.0lb/ft - 52.7kg/m.
Grade -	K55
Shoe Setting Depth -	1232.0m.
Quantity of Cement -	32 cubic metres "A"

2.3.4 Deviation Surveys :

Depth (metres)	Deviation (degrees)	Depth (metres)	Deviation (degrees)	Depth (metres)	Deviation (degrees)
38	0.75	362	0.00	1220	0.50
94	0.25	504	0.88	1498	0.75
124	0.00	762	0.75	1754	2.00
189	0.25	895	1.00	2144	4.25
258	0.75	1053	1.00	2183	3.50

2.3.5 Drilling Fluid :

(a) Spud - 261m. Type - Gel Spud Mud
Additives - Ausgel, Caustic, Soda Ash.

(b) 261 – 2570m. Type - KCl - Polymer
Additives - Ausgel, Barite, Biocide, Defoamer, Enerseal F, KCl, Kwikseal F, Kwikseal M, Lime, NaOH, Pac -R, PHPA, Soda Ash, Sodium Sulphite, Xantemp.

2.3.6 Physical Mud Properties :

Date	Wt.	Vis.	WL	FC	pH	K+	KCl	Cl-
05/12	8.90	46	16	2				700
06/12	9.20	47	16	2	8.0			750
07/12								
08/12	8.70	47	10.5		9.5			32250
09/12	9.75	47	10.0	1	8.0	27560	5.1	29000
10/12	9.60	43	11.0	1	8.5	24858	4.6	27000
11/12	9.60	44	9.8	1	8.8	25939	4.8	27000
12/12	9.70	45	9.5	1	8.8	25939	4.8	26500
13/12	9.70	46	9.5	1	8.5	25939	4.8	26500
14/12	9.60	42	13.0	2	8.0	24318	4.5	25000
15/12	8.70							
16/12	8.75	37	8.5	1	9.5	29182	5.4	31000
17/12	8.90	40	8.0	1	9.5	38909	7.2	41000
18/12	8.90	40	8.0	1	9.5	38909	7.2	41000
19/12	9.35	38	8.4	1	8.5	25399	4.7	27000
20/12	9.30	36	8.5	1	8.0	18374	3.4	19500
21/12	9.40	38	8.0	1	8.5	17293	3.2	18500
22/12	9.40							
23/12	9.30	49	6.5	1	8.0	15672	2.9	16500
24/12	9.00	45	5.6	1	8.5	14591	2.7	15000
25/12	9.10	40	7.5	1	8.5	16752	3.1	17500
26/12	9.00	38	6.4	1	8.5	13510	2.5	14000
27/12	9.10	34	7.2	1	8.5	13510	2.5	14000
28/12	9.10	34	7.2	1	8.5	13510	2.5	14000
29/12	9.10	34	7.2	1	8.5	13510	2.5	14000
30/12	9.10	34	7.2	1	8.5	13510	2.5	14000

Chemicals Used :

PRODUCT	UNIT (lb)	USED	WEIGHT (lb)
Ausgel	55	304	16720
Barite	55	1363	74965
Biocide	25	14	350
Caustic	44	2	88
Defoamer	25	13	325
Enerseal F	55	63	3465
KCl	55	1296	71280
Kwikseal F	55	72	3960
Kwikseal M	55	20	1100
Lime	55	5	275
NaOH	55	21	1155
Pac -R	55	63	3465
PHPA	55	110	6050
Sod Sulphite	55	70	3850
Sod. Ash	55	44	2420
Xantemp	55	60	3300

2.3.7 Water Supply :

Water was obtained from a bore on site.

2.3.8 Perforation Record :

None

2.3.9 Plugging and Cementing :

1 1332 - 1182m. 9 tonnes "A" - tag @ 1209m.
2 Surface.

2.4 Logging and Testing

2.4.1 Wellsite Geologist :

D.A. Short

2.4.2 Mudlogging :

Mudlogging services were provided by Geoservices. Cuttings gas was monitored from surface casing shoe to total depth using a hot-wire gas detector and a gas chromatograph.

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

2.4.3 Ditch Cutting Samples :

Cuttings were collected at 10m. intervals from surface to 260m. and then at 3m. intervals to 2570.0m. (T.D). The cuttings samples and sets were:

Sample Type	No. Sets
Unwashed	1
Washed	2
Samplex Trays	1

2.4.4 Coring :

No cores were cut.

2.4.5 Sidewall Cores :

30 attempted / 29 recovered.

2.4.6 Testing :

DST No.:	1 Bottom Hole (Packer in 244mm. casing.)
Formation :	Strzelecki Formation
Interval :	1206.0 – 1274.0m. (D&L)
Result:	Opened tool for 10 minute initial flow - Lost 10.5 bbl mud past packer before seating - Close in for 30 minutes - Open for 120 minute final flow, GTS after 22 minutes, 52psi on 1/8" choke at end of flow (Q=23mcfd) - Shut in for 240 minutes.
Recovery :	18.7 bbl. (401m.) mud, including 10.5 bbl lost on opening. Gas cut mud @ 500psi in sample chamber.

DST No.:	2 Open Hole – Inflate Straddle
Formation :	Strzelecki Formation
Interval :	1387.0 – 1414.4m. (D&L)
Result:	Opened on Very weak blow - No gas to surface.
Recovery :	Reversed out minor gas & 196m. of slightly gas cut muddy water. Field Rw = 0.35Ω-M @ 72°F. (Sample chamber contained 3.5 litres of slightly muddy water.)

DST No.:	3 Open Hole – Inflate Straddle
Formation :	Strzelecki Formation
Interval :	2185.0 – 2215.2m. (D&L)
Result:	After 39 minutes gas @ RTSTM and water @ 900 b/d.
Recovery :	See DST#4 - Re-set 15 metres higher for DST#4

DST No.:	4 Open Hole – Inflate Straddle
Formation :	Strzelecki Formation
Interval :	2170.0 – 2200.2m. (D&L)
Result:	Gas @ RTSTM and Water @ 900 b/d.
Recovery :	Full string of salty water. (Rw = 0.34Ωm @ 25°C.)

2.4.7 Wireline Logs :

Three suites of logs were run by Schlumberger

Suite / Depth	Logs
1 @ 1233m.	DLL / BCS / RHOZ / GR / SP / Cal
2 @ 2152m.	DLL / BCS / RHOZ / TNPH / GR / SP / Cal
3 @ 2570m.	DLL / BCS / GR / SP / Cal

2.4.8 Temperature Surveys :

None	Temperatures recorded from drill stem tests at Trifon-1 & Gangell-1 give a temperature gradient of 29.5°C / 1000m. The bottom hole temperature at 2570m. calculated as 94°C

2.4.9 Velocity Survey :

None

3.0 GEOLOGY

3.1 Reasons for Drilling

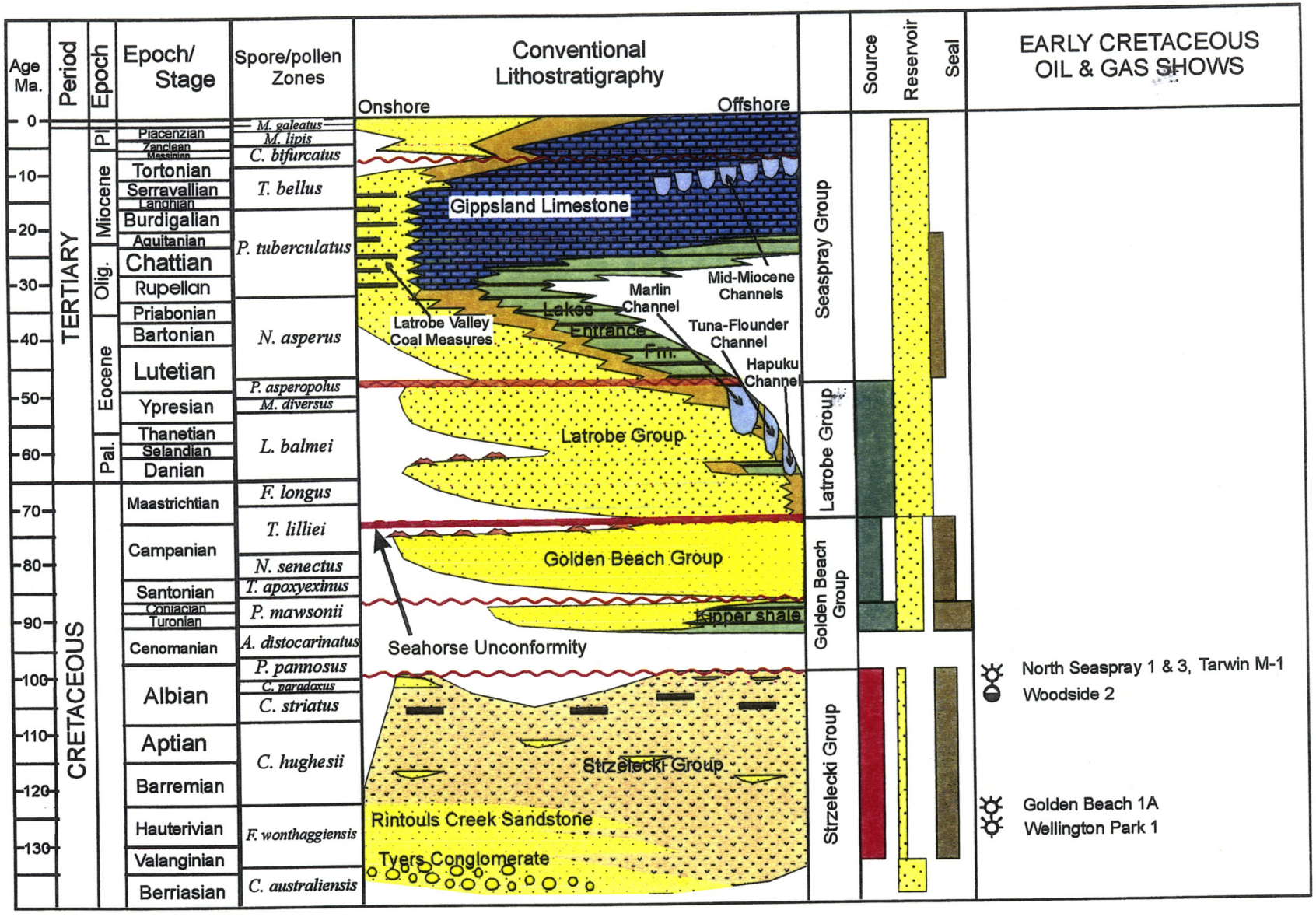
Trifon-1 was drilled to evaluate the hydrocarbon potential of a detached alluvial fan identified on seismic within the Strzelecki Formation. The Secondary targets were thin meander belt sands in the upper Strzelecki Formation which were gas productive in North Seaspray-1&3

Previious wells in the area included North Seaspray-1, Carrs Creek-1 and Burong-1.

North Seaspray-1 was drilled in 1962 on an anticline closed on the Latrobe Group. A drill stem test within the top Latrobe Group was attempted but the packer did not seat. The lower Latrobe sand unit was not tested. Log interpretation suggests the Latrobe sands are fresh water flushed. Significant attention was paid to the upper Strzelecki Formation between 1104 and 1158m. culminating in the setting of casing and testing through perforations. Open hole DST#3 (1147.6-1156.7m. KB. flowed gas at an estimated 50-100mcfd for a duration of 2 hours. The well was drilled to 1371.6m. KB. and plugged back to 1161.3m. KB. DST#5 attempted over the interval 1144.5-1161.3m. KB. but failed due to plugging with cement. The hole was then cased and perforated and further DSTs were run. Testing did not extend below 1150.3m. KB. and although gas flowed to surface the rate was less than in the original DST#3 in open hole.

Carrs Creek-1 was drilled in 1963 following the encouraging gas flows in North Seaspray-1 some 5.3km. to the west. The well was located down-dip of the North Seaspray structure where it was hoped that the Strzelecki Formation sands would have better porosities and permeabilities. Subsequent mapping has shown that the Carrs Creek feature is separate to the North Seaspray structure. No significant shows were encountered in the well and the gas sand noted in North Seaspray-1 was not encountered. The Latrobe Group sands were fresh water flushed. A sandstone between 1388 – 1402m. KB. also contained fresh water suggesting possible communication with the overlying Latrobe Group. Waters were brackish in the remainder of the Strzelecki Formation sands.

The Burong structure is a northeast-southwest trending asymmetrical anticline, fault controlled to the north west. The fault was probably a down to the basin normal fault which has subsequently been inverted and reversed during the Late Miocene. The Burong-1 well was drilled in 1985 as a crestal test of the anticline. The main target was the Latrobe Group and although the sands had excellent porosities and permeabilities no oil shows were observed and minor methane was recorded from the top 60m. Wireline logs confirmed the sands to be water saturated and the gas shows to have been associated with Latrobe Group coals.



LITHOSTRATIGRAPHY
GIPPSLAND BASIN

Figure 4

3.2 Stratigraphic Prognosis

The stratigraphic prognosis was made utilising the results of nearby wells and the available seismic coverage.

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

FORMATION	PROGNOSED	ACTUAL	DIFFERENCE
	MD (mKB)	MD (mKB)	MD (m)
Haunted Hill Gravels	4.9	4.9	0.0
Jemmy's Point Fm.	95.0	79.5	15.5
Tambo River Fm.	171.0	165.0	6.0
Gippsland Limestone	213.0	233.5	-20.5
Lakes Entrance Fm.	611.0	620.0	-9.0
Latrobe Group (Top Clastics)	660.0	689.0	-29.0
Latrobe Group (Top Coals)	796.0	835.0	-39.0
Strzelecki Group	1208.0	1236.0	-28.0
Total Depth	1650.0	2570.0	

3.3 Stratigraphy

The stratigraphic section encountered in Trifon-1 is graphically illustrated in Figure 4 and discussed below.

HAUNTED HILL GRAVELS

4.9 - 79.5 metres Thickness : 74.6 metres

4.9 - 79.5m SANDSTONE, clear to translucent white, yellow to yellow-brown at top, medium to very coarse, sub-angular to rounded, poor to moderate sorted, trace grey chert grains, rare carbonaceous fragments and greenish mica flakes, predominantly loose, minor yellow ferruginous clay matrix at top, very good porosity.

JEMMY'S POINT FORMATION

79.5 - 165.0 metres Thickness : 85.5 metres

79.5 - 165.0m Interbedded MARL and LIMESTONE with GLAUCONITE at top.
MARL, pale grey, pale brownish grey, very fossiliferous, silty, occasionally sandy.
LIMESTONE, white, very pale pinkish white, fossil fragments, silty and argillaceous in part, grading to marl in part.
GLAUCONITE, dark green to black silty nodules / concretions and as replacement in some fossil fragments.

TAMBO RIVER FORMATION

165.0 - 233.5 metres Thickness : 68.5 metres

165.0 - 205.0m. LIMESTONE, white to pale yellowish white, fossil fragments with a weak to moderate calcite cement in part, occasionally silty and argillaceous.

205.0 - 235.0m. MARL, white to pale grey, fossiliferous, argillaceous, silty / sandy, occasionally glauconitic.

GIPPSLAND LIMESTONE

233.5 - 620.0 metres Thickness : 386.5 metres

233.5 - 261.0m. Interbedded MARL and LIMESTONE.
MARL, white to pale grey, fossiliferous, argillaceous, silty / sandy, occasionally glauconitic.
LIMESTONE, white to pinkish white, fossil fragments in a calcite cement, occasionally argillaceous and silty.

261.0 - 451.0m. MARL, grading to limestone in part, off white to light grey, occasionally pale brown, soft to firm, minor green glauconitic nodules and glauconitic

staining, fossiliferous, argillaceous and grades to calcareous claystone in part. Trace moderate to dark brown siltstone, very argillaceous.

451.0 - 480.0m. MARL, grading to limestone in part, off white to light grey, occasionally pale brown, soft to firm, minor green glauconitic nodules and glauconitic staining, fossiliferous, argillaceous and grades to calcareous claystone in part. Trace moderate to dark brown siltstone, very argillaceous.

480.0 - 527.0m. MARL, light grey, some light pinkish brown, soft to firm, argillaceous, also moderate hard to hard, very calcareous and grades to limestone.

527.0 - 546.0m. MARL, white to light grey, light grey-brown, soft to firm, argillaceous and grades to claystone.

546.0 - 620.0m. MARL, white to pale greenish white, light grey, soft, very argillaceous, grades to claystone, greenish glauconitic stain, minor fossils, rare coarse to very coarse loose well rounded quartz grains.

LAKES ENTRANCE FORMATION

620.0 - 689.0 metres Thickness : 69.0 metres

620.0 - 689.0m MARL, pale greenish white to light greenish grey, pale brown to grey-brown, soft, green glauconitic staining, minor fossil fragments, very argillaceous and grades to claystone. Abundant glauconite pellets (5%) below 666m.

LATROBE GROUP

689.0 - 1236.0 metres Thickness : 547.0 metres

689.0 - 704.0m. COAL, very dark brown to black, dull to sub-vitreous lustre, tabular to conchoidal fracture, gas bleeding from some joints / fractures.

704.0 - 713.0m. SANDSTONE, translucent white, medium to coarse, occasionally very coarse, minor dispersive silty, argillaceous and carbonaceous matrix at top, generally loose, very good porosity.

713.0 - 720.0m. COAL as for 689.0 - 704.0m. & minor SANDSTONE as for 704.0 - 713.0m.

720.0 - 793.0m. SANDSTONE with trace COAL.
SANDSTONE, translucent white, medium to coarse, occasionally very coarse, minor dispersive silty, argillaceous and carbonaceous matrix at top, generally loose, very good porosity.
COAL, very dark brown to black, dull to sub-vitreous lustre, lignitic.

793.0 - 835.0m. SANDSTONE, translucent white, translucent very pale brown, fine to very coarse, sub-angular to rounded, moderate sorted, loose quartz grains, very good porosity.

835.0 - 964.0m. Interbedded SANDSTONE, CLAYSTONE and COAL.
SANDSTONE, translucent white, translucent very pale brown, coarse to very coarse, granular in part, angular to sub-angular, moderate sorted, loose quartz grains, very good porosity.
CLAYSTONE, white, light to dark brown, soft, dispersive, carb, silty in part.
COAL, very dark brown to black, sub-vitreous lustre, tabular to platey fracture.

964.0 - 1236.0m. SANDSTONE with interbedded CLAYSTONE and minor COAL.
SANDSTONE, translucent white, medium to very coarse, angular to sub-angular, moderate sorted, loose quartz grains, good porosity.
CLAYSTONE, white to pale brown and grey-brown, soft, dispersive, amorphous, carbonaceous specks, silty in part..
COAL, very dark brown to black, sub-vitreous lustre, tabular to platey fracture.

STRZELECKI FORMATION

1236.0 - 2570.0 metres Thickness : 1334.0 metres

1233.0 - 1269.0m. Interbedded SANDSTONE and CLAYSTONE.

SANDSTONE, white to moderate grey, very fine to occasionally medium, sub-angular to sub-rounded, moderate sorted, abundant greenish grey to grey-black volcano-lithic grains, feldspathic, moderate to abundant clay matrix, trace pyrite & mica, calcareous, friable, poor to fair porosity.

CLAYSTONE, predominantly pale grey to bluish grey, soft to firm, silty, calcareous in part; minor moderate to dark brown, carbonaceous.

1269.0 - 1298.0m. Interbedded SANDSTONE & CLAYSTONE.

SANDSTONE, light to dark grey, white to greenish grey, very fine to occasionally medium, sub-angular to sub-rounded, moderate sorted quartz and green grey to black volcano-lithic grains, feldspathic, rare pyrite, dispersive clay matrix, grains being matrix supported in part, common calcite and weak calcite cement, friable, poor porosity.

CLAYSTONE, pale grey to pale greenish grey, soft to firm, silty, trace carbonaceous specks.

1298.0 - 1340.0m. SANDSTONE with interbedded CLAYSTONE.

SANDSTONE, white to pale grey, moderate to dark grey-green, fine to medium, sub-rounded, moderate to well sorted quartz, feldspar and multi-coloured volcano-lithic grains with a dispersive argillaceous matrix, weak to moderate calcite cement, friable, poor porosity.

CLAYSTONE, light grey to grey-green, pale brown to grey-brown, soft to firm, blocky, silty in part.

1340.0 - 1418.0m. SANDSTONE with minor CLAYSTONE.

SANDSTONE, white to light grey, grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz, feldspar and quartzitic

volcano-lithic grains, trace mica, dispersive clay matrix, slightly calcareous, friable, poor to occasional fair porosity.

CLAYSTONE, light grey, grey-green, pale brown, soft, silty in part.

1418.0 - 1491.0m. CLAYSTONE with minor SANDSTONE.

CLAYSTONE, light to moderate grey to grey-green, occasionally grey-brown, soft to firm, occasionally silty, minor plant / coal fragments.

SANDSTONE, white to grey-green, very fine, sub-rounded, moderate to well sorted, lithic, feldspathic, abundant clay matrix, calcite cement, friable, very poor porosity.

1491.0 - 1691.5m. Interbedded SANDSTONE and CLAYSTONE, minor SILTSTONE with trace COAL and TUFF.

SANDSTONE, white to pale grey, pale grey-green, very fine to fine, sub-angular to sub-rounded, moderate to well sorted, lithic, feldspathic, trace mica, dispersive clay matrix, calcareous in part, friable, poor porosity.

CLAYSTONE, light to moderate brown, grey-green, soft, dispersive, silty and carbonaceous in part.

COAL, black, sub-vitreous lustre.

TUFF, pale grey-brown, soft to firm, silty and carbonaceous in part.

1691.5 - 1865.0m. SANDSTONE, with interbedded CLAYSTONE and minor SILTSTONE / TUFF and trace COAL.

SANDSTONE, light to moderate grey to grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted clear to white quartz, white to pinkish orange feldspar and grey-green to black volcano-lithic grains, minor calcite, dispersive clay matrix, friable, poor porosity.

CLAYSTONE, light to dark grey and grey-green, light to moderate brown, soft to firm, dispersive, silty, carbonaceous and tuffaceous in part.

SILTSTONE, moderate to dark brown, carbonaceous, also light brown to grey-brown, argillaceous and tuffaceous.

TUFF, translucent pale brownish grey, soft to firm, silty and carbonaceous in part.

COAL, dark brown to black, lignitic.

1865.0 - 1910.0m. CLAYSTONE with minor SANDSTONE.

CLAYSTONE, light to moderate grey to grey-brown, grey-green, soft, occasionally silty.

SANDSTONE, light to moderate grey to grey-green, very fine to fine, some medium, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, calcareous in part, clay matrix, friable, poor porosity.

1910.0 - 2113.0m. SANDSTONE, with minor interbedded CLAYSTONE.

SANDSTONE, arkosic, light to moderate grey to grey-green, very fine to fine, occasionally medium, predominantly sub-angular, some sub-rounded, moderate sorted clear to white quartz, white to pinkish orange feldspar and grey-green to black volcano-lithic grains, minor calcite, dispersive clay matrix, friable, very poor to poor porosity.

CLAYSTONE, light to moderate grey and grey-green, bluish grey, light to dark brown, soft to firm, dispersive, silty, carbonaceous and tuffaceous in part.

2113.0 - 2193.0m. SANDSTONE with minor CLAYSTONE.

SANDSTONE, white to pale grey, very fine to fine, occasionally silty, sub-angular to sub-rounded, moderate sorted clear to white quartz, white feldspar and grey-green to grey-black volcano-lithic, minor calcite, trace mica flakes and carbonaceous material, minor green chloritic staining, dispersive clay matrix, friable, poor porosity.

CLAYSTONE, pale grey to greenish grey, moderate to dark brown, soft to firm, silty in part.

2193.0 - 2344.0m. Argillaceous SANDSTONE with interbedded CLAYSTONE.

SANDSTONE, light to moderate grey, very fine to fine, grades to siltstone in part, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, argillaceous, minor mica flakes and calcite, friable to moderately hard, poor porosity.

CLAYSTONE, light to dark grey, greenish grey, moderate to dark brown, sub-fissile to blocky, silty and carbonaceous in part.

2344.0 - 2467.0m. Argillaceous SANDSTONE with interbedded CLAYSTONE.
SANDSTONE, light to moderate grey, grey-green, some white to grey-brown, very fine to fine, occasionally medium, grades to siltstone in part, sub-angular to sub-rounded, moderate sorted, volcano-lithic, feldspathic, argillaceous, minor mica flakes, trace to common calcite grains, friable to moderately hard, poor porosity.
CLAYSTONE, light to dark grey, greenish grey, moderate to dark brown, sub-fissile to blocky, dispersive in part, silty and carbonaceous in part.

2467.0 - 2570.0m. Argillaceous SANDSTONE with interbedded CLAYSTONE and trace COAL.
SANDSTONE, white to pale green, grey-green, very fine to fine, sub-angular to sub-rounded, moderate sorted, volcano-lithic, feldspathic, abundant argillaceous matrix, green chloritic staining in part, friable, poor porosity.
CLAYSTONE, moderate grey to grey-green, grey-brown, moderate to dark brown, soft to firm, occasional carbonaceous and silty in part.
COAL, very dark brown to black, sub-vitreous lustre, grades to shale in part.

TOTAL DEPTH

Driller: 2570.0 metres

Logger: 2570.0 metres (Extrapolated)

3.4 Hydrocarbon Shows

Latrobe Group : The only shows were from the coals at the top of the unit where a maximum of 358 units of gas (100% C1) was recorded. At 717m. temporary lost circulation resulted in erroneously long lag time, initially indicating that the gas came from a coal / sand interval. When the lag was corrected it showed that the coals were the sole source of the gas.

Strzelecki Group : Moderate to very good gas shows (200 to 1000+ units) were recorded down to 2050m. while below 2050m. the gas was generally below 200 units. Gas composition was typically 97/2/1/Tr.

Four drill stem tests were run in the Strezlecki Group.

DST No.1	Bottom Hole (Packer in 244mm. casing.)
Interval :	1206.0 – 1274.0m. (D&L)
Result:	Opened tool for 10 minute initial flow - Lost 10.5 bbl mud past packer before seating - Close in for 30 minutes - Open for 120 minute final flow, GTS after 22 minutes, 52psi on 1/8" choke at end of flow (Q=23mcfd) - Shut in for 240 minutes.
Recovery :	18.7 bbl. (401m.) mud, including 10.5 bbl lost on opening.

DST No.2	Open Hole – Inflate Straddle
Interval :	1387.0 – 1414.4m. (D&L)
Result:	Opened on Very weak blow - No gas to surface.
Recovery :	Reversed out minor gas & 196m. of slightly gas cut muddy water. Field Rw = 0.35Ω-M @ 72°F. (Sample chamber contained 3.5 litres of slightly muddy water.)

DST No.3	Open Hole – Inflate Straddle
Interval :	2185.0 – 2215.2m. (D&L)
Result:	After 39 minutes gas @ RTSTM and water @ 900 b/d.
Recovery :	See DST#4 - Re-set 15 metres higher for DST#4

DST No.4	Open Hole – Inflate Straddle
Interval :	2170.0 – 2200.2m. (D&L)
Result:	Gas @ RTSTM and Water @ 900 b/d.
Recovery :	Full string of salty water. (Rw = 0.34Ωm @ 25°C.)

4.0 DISCUSSION AND CONCLUSIONS

Trifon-1 intersected a normal onshore Gippsland Basin sedimentary section and formation tops were generally 10 to 30 metres lower than prognosed.

Trifon-1 achieved its' objective of evaluating the upper Strzelecki Formation but the sands encountered were predominantly fine grained, lithic, very argillaceous and with poor to fair reservoir quality This appears to be confirmed by wireline logs where although calculated porosities lie in the 12 – 18% range when tested they show a lack of good permeability as seen in DSTs 1&2 where they flowed gas at rates less than 50mcfd.

Of significance are the water flows of 900 barrels / day recorded from DSTs 3&4. The water accompanied by a small amount of gas appears to be flowing from fractures in the sands at 2191 and 2209 metrers. These fractures can be identified on the sonic log and are seen at several levels in the Strzelecki Formation in Trifon-1.

The sands of the Latrobe Group had very good porosity and permeability but were, as expected, water saturated. The top Latrobe had a maximum gas reading of 358 units but was not tested. The coal was produced in large "chunks" and showed what appeared to be an extensive fracture system which could provide a conduit to the underlying water filled Latrobe sands. If this were the case then any attempts to produce gas from the coal(s) would quite likely be frustrated by very high and probably sustained water production.

5.0 COMPLETION

None – the well was plugged and abandoned.

Table1: TRIFON-1 - STRATIGRAPHIC TABLE

Age	Formation	Depth KB (m)	Elevation (m)	Thickness (m)
TERTIARY Pleistocene-Pliocene	Haunted Hills Gravels	4.9 m	29.9	74.6
TERTIARY Pliocene	Jemmy's Point Fm.	79.5	-49.6	85.5
TERTIARY Miocene	Tambo River Fm.	165	-135.1	68.5
TERTIARY Oligocene- Miocene	Gippsland Limestone	233.5	-203.6	386.5
TERTIARY Oligocene	Lakes Entrance Fm.	620	-590.1	69
TERTIARY Eocene	Latrobe Gp. (Top Clastics)	689	-659.1	547
TERTIARY Eocene	Latrobe Gp (Top Coal)	(835)	(-805.1)	
LOWER CRETACEOUS	Strzelecki Fm	1236	-1206.1	1334+
	Total Depth	2570	-2540.1	

Ground Level 25.0 m
KB 29.9 m

PASTEL MANILLA DIVIDERS
5 TAB A4

marbig

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APPENDIX 1

CUTTINGS DESCRIPTIONS

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
20	100	SANDSTONE, clear to translucent, white to pale yellow-brown, medium to very coarse, angular to sub-rounded, poor to moderate sorted quartz grains, trace chert grains, moderate dispersive yellow ferruginous clay matrix, friable to loose, good porosity.	
30 (2.3)	100	SANDSTONE, a.a. – coarse to very coarse, occasionally granular, sub-angular to rounded, moderate sorted, good porosity.	0.0 (0:0:0:0:0)
40 (0.5)	100	SANDSTONE, a.a. - clear to translucent white, trace yellow, coarse to very coarse, sub-rounded to rounded, moderate sorted, good porosity.	0.0 (0:0:0:0:0)
50 (0.4)	100	SANDSTONE, a.a. – medium to very coarse, loose, sub-angular to rounded, moderate sorted, good porosity.	0.0 (0:0:0:0:0)
60 (0.4)	100	SANDSTONE, clear to translucent white, medium to very coarse, sub-angular to rounded, poor to moderate sorted, trace grey chert grains, rare carbonaceous fragments and greenish mica flakes, predominantly loose, good porosity.	0.0 (0:0:0:0:0)
70 (0.3)	100	SANDSTONE, a.a. – fine to very coarse.	0.0 (0:0:0:0:0)
80 (0.4)	100	SANDSTONE, a.a. – fine to very coarse, trace grey chert grains and green mica flakes, loose, good porosity.	0.0 (0:0:0:0:0)
90 (0.4)	100	SANDSTONE, clear to translucent white, very pale grey, fine to medium, occasionally coarse, sub-angular to sub-rounded, moderate sorted, loose quartz grains, minor red-brown, yellow-brown and grey chert grains, trace white and green mica flakes, good porosity.	0.0 (0:0:0:0:0)
100 (0.7)	80 20 Tr	SANDSTONE, a.a. – fine to medium, common greenish white mica flakes. LIMESTONE, fossil fragments, bryozoa, molluscs, forams. COAL, dull brown-black to black, lignitic.	0.0 (0:0:0:0:0)
110 (0.9)	50 50 Tr	SANDSTONE, translucent white to pale yellow, minor pale grey, coarse to granular, rounded, polished, moderate to well sorted, loose quartz grains, very good porosity. LIMESTONE, white to pinkish white fossil fragments, bryozoa, mollusc and forams. GLAUCONITE, dark green to black silty nodules / concretions and as replacement in some fossil fragments.	0.0 (0:0:0:0:0)
120 (0.4)	30 10 60	SANDSTONE, a.a. MARL, white to light grey, silty and sandy. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
130 (0.5)	40 30 30	SANDSTONE, a.a. MARL, white to light grey, silty, occasionally sandy. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
140 (0.4)	10 90	SANDSTONE, a.a. MARL, pale grey, pale brownish grey, very fossiliferous, silty, occasionally sandy.	0.0 (0:0:0:0:0)
150 (0.5)	Tr 100	SANDSTONE, a.a. MARL, a.a. – grades to limestone in part.	0.0 (0:0:0:0:0)
160 (0.5)	Tr 30 70	SANDSTONE, a.a. MARL, a.a. LIMESTONE, white, very pale pinkish white, fossil fragments, silty and argillaceous in part, grading to marl in part.	0.0 (0:0:0:0:0)
170 (0.3)	10 90	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
180 (0.6)	100	LIMESTONE, a.a.	0.0 (0:0:0:0:0)
190 (0.5)	100	LIMESTONE, white to pale yellowish white, fossil fragments with a weak to moderate calcite cement in part, occasionally silty and argillaceous.	0.0 (0:0:0:0:0)
200 (0.6)	100	LIMESTONE, a.a.	0.0 (0:0:0:0:0)
210 (0.7)	100	MARL, white to pale grey, fossiliferous, argillaceous, silty / sandy, occasionally glauconitic.	0.0 (0:0:0:0:0)
220 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
230 (1.2)	100	MARL, a.a.	0.0 (0:0:0:0:0)
240 (1.1)	80 20	MARL, a.a. – glauconitic. LIMESTONE, white to pinkish white, fossil fragments in a calcite cement, occasionally argillaceous and silty.	0.0 (0:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
250 (0.9)	70 30	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
260 (1.2)	40 60	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
264 (1.4)		No Sample – bypassing shakers	0.0 (0:0:0:0:0)
267 (2.5)		No Sample – bypassing shakers	0.0 (0:0:0:0:0)
270 (3.4)		No Sample – bypassing shakers	0.0 (0:0:0:0:0)
273 (1.4)		No Sample – bypassing shakers	0.0 (0:0:0:0:0)
276 (1.2)		No Sample – bypassing shakers	0.0 (0:0:0:0:0)
279 (1.2)		No Sample – bypassing shakers	0.0 (0:0:0:0:0)
282 (1.5)	100	LIMESTONE, white to very pale greenish grey, pale pinkish white, fossiliferous, slightly argillaceous, minor greenish glauconitic staining.	0.0 (0:0:0:0:0)
285 (1.3)	100	LIMESTONE, a.a.	0.0 (0:0:0:0:0)
288 (1.2)	100	LIMESTONE, a.a.	0.0 (0:0:0:0:0)
291 (1.2)	100	LIMESTONE, a.a.	0.0 (0:0:0:0:0)
294 (1.7)	20 80	MARL, light grey, argillaceous, fossiliferous, grades to limestone. LIMESTONE, a.a. – minor fine to medium quartz grains, argillaceous in part.	0.0 (0:0:0:0:0)
297 (1.7)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
300 (1.2)	50 50	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
303 (1.0)	70 30	MARL, pale grey, fossiliferous, trace glauconite, trace medium to coarse rounded quartz grains, argillaceous. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
306 (0.8)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
309 (0.7)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
312 (0.6)	80 20	MARL, white to pale grey, minor pale greenish grey, minor glauconite, trace medium to very coarse quartz grains, fossiliferous, argillaceous and grades to calcareous claystone in part. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
315 (0.7)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
318 (0.9)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
321 (0.7)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
324 (0.6)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
327 (0.8)	80 20	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
330 (1.0)	90 10	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
333 (0.7)	90 10	MARL, a.a. LIMESTONE, a.a.	0.0 (0:0:0:0:0)
336 (1.0)	100	MARL, pale grey to pale greenish grey, white to pale pinkish brown, fossiliferous, minor glauconite and glauconitic staining, argillaceous and grades to calcareous claystone.	0.0 (0:0:0:0:0)
339 (0.7)	100	MARL, a.a.	0.0 (0:0:0:0:0)
342 (0.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
345 (0.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
348 (0.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
351 (0.9)	100	MARL, a.a.	0.0 (0:0:0:0:0)
354 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
357 (0.7)	100	MARL, a.a. – fossiliferous, forams and bryozoa fragments, argillaceous.	0.0 (0:0:0:0:0)
360 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
363 (0.9)	100	MARL, a.a.	0.0 (0:0:0:0:0)
366 (1.0)	100	MARL, a.a.	0.0 (0:0:0:0:0)
369 (0.8)	100	MARL, pale grey, white to off-white, soft to firm, fossiliferous, grades to calcareous claystone.	0.0 (0:0:0:0:0)
372 (0.7)	100	MARL, a.a.	0.0 (0:0:0:0:0)
375 (0.8)	100	MARL, a.a. – trace glauconite.	0.0 (0:0:0:0:0)
378 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
381 (0.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
384 (0.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
387 (0.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
390 (0.5)	100	MARL, a.a.	0.0 (0:0:0:0:0)
393 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
396 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
399 (0.9)	100	MARL, a.a.	0.0 (0:0:0:0:0)
402 (1.0)	100	MARL, a.a.	0.0 (0:0:0:0:0)
405 (0.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
408 (0.7)	100	MARL, a.a.	0.0 (0:0:0:0:0)
411 (0.9)	Tr 100	SILTSTONE, moderate to dark brown, soft, argillaceous, carbonaceous. MARL, a.a.	0.0 (0:0:0:0:0)
414 (1.2)	Tr 100	SILTSTONE, a.a. MARL, a.a.	0.0 (0:0:0:0:0)
417 (1.5)	Tr 100	SILTSTONE, a.a. MARL, a.a.	0.0 (0:0:0:0:0)
420 (1.3)	100	MARL, off-white to light grey, soft to firm, minor glauconite, fossiliferous, argillaceous and grades to calcareous claystone in part.	0.0 (0:0:0:0:0)
423 (1.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
426 (2.0)	100	MARL, a.a.	0.0 (0:0:0:0:0)
429 (1.3)	100	MARL, a.a.	0.0 (0:0:0:0:0)
432 (2.4)	100	MARL, a.a.	0.0 (0:0:0:0:0)
435 (1.5)	100	MARL, a.a.	0.0 (0:0:0:0:0)
438 (2.9)	100	MARL, a.a.	0.0 (0:0:0:0:0)
441 (2.0)	100	MARL, light grey, soft to firm, fossiliferous, argillaceous and grades to calcareous claystone in part.	0.0 (0:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
444 (1.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
447 (2.1)	100	MARL, a.a.	0.0 (0:0:0:0:0)
450 (1.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
453 (1.9)	100	MARL, a.a. – becoming more argillaceous and grading to calcareous claystone.	0.0 (0:0:0:0:0)
456 (1.5)	100	MARL, a.a.	0.0 (0:0:0:0:0)
459 (1.4)	100	MARL, a.a.	0.0 (0:0:0:0:0)
462 (1.6)	100	MARL, a.a.	0.0 (0:0:0:0:0)
465 (0.9)	100	MARL, a.a.	0.0 (0:0:0:0:0)
468 (1.5)	100	MARL, a.a. – fossiliferous.	0.0 (0:0:0:0:0)
471 (1.5)	100	MARL, a.a. – also pale pinkish brown, fossiliferous and grades to hard crystalline limestone.	0.0 (0:0:0:0:0)
474 (1.7)	100	MARL, a.a.	0.0 (0:0:0:0:0)
477 (1.2)	100	MARL, a.a.	0.0 (0:0:0:0:0)
480 (1.7)	100	MARL, a.a.	0.0 (0:0:0:0:0)
483 (2.2)	100	MARL, a.a. – grades to hard crystalline limestone in part.	0.0 (0:0:0:0:0)
486 (2.1)	100	MARL, a.a.	0.0 (0:0:0:0:0)
489 (2.4)	100	MARL, light grey, some light pinkish brown, soft to firm, argillaceous, also moderate hard to hard, very calcareous and grades to limestone.	0.0 (0:0:0:0:0)
492 (4.1)	100	MARL, a.a.	0.0 (0:0:0:0:0)
495 (4.3)	100	MARL, a.a.	0.0 (0:0:0:0:0)
498 (2.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
501 (2.6)	100	MARL, a.a. – trace glauconite.	0.0 (0:0:0:0:0)
504 (2.8)	100	MARL, a.a.	0.0 (0:0:0:0:0)
507 (1.7)	100	MARL, a.a. – grades to limestone.	0.0 (0:0:0:0:0)
510 (2.3)	100	MARL, a.a.	0.0 (0:0:0:0:0)
513 (1.2)	100	MARL, a.a.	0.0 (0:0:0:0:0)
516 (1.7)	100	MARL, white to light grey, light grey-brown, soft to firm, argillaceous and grades to claystone, also moderate hard to hard, fossiliferous and crystalline and grades to limestone.	0.0 (100:0:0:0:0)
519 (2.5)	100	MARL, a.a.	0.5 (100:0:0:0:0)
522 (1.9)	100	MARL, a.a.	0.3 (100:0:0:0:0)
525 (2.0)	100	MARL, a.a.	0.0 (100:0:0:0:0)
528 (2.3)	100	MARL, a.a. – minor disseminated glauconite.	0.0 (100:0:0:0:0)
531 (1.4)	100	MARL, a.a.	0.0 (100:0:0:0:0)
534 (1.3)	100	MARL, a.a.	0.2 (100:0:0:0:0)
537 (1.4)	100	MARL, a.a.	0.0 (100:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
540 (1.5)	100	MARL, a.a.	0.3 (100:0:0:0:0)
543 (1.3)	100	MARL, a.a.	0.0 (100:0:0:0:0)
546 (1.3)	100	MARL, white to pale greenish white, light grey, soft, very argillaceous, grades to claystone, greenish glauconitic stain, minor fossils, rare coarse to very coarse loose well rounded quartz grains.	0.0 (100:0:0:0:0)
549 (1.3)	100	MARL, a.a.	0.2 (100:0:0:0:0)
552 (1.3)	100	MARL, a.a. – common fossil fragments.	0.0 (91:9:0:0:0)
555 (1.2)	100	MARL, a.a.	0.0 (91:9:0:0:0)
558 (1.3)	100	MARL, a.a.	0.0 (100:0:0:0:0)
561 (1.3)	100	MARL, a.a.	0.5 (100:0:0:0:0)
564 (1.3)	100	MARL, a.a. – light to moderate greenish grey, soft to firm, grades to claystone in part.	0.2 (100:0:0:0:0)
567 (1.3)	100	MARL, a.a.	0.2 (94:6:0:0:0)
570 (1.1)	100	MARL, a.a. – greenish white to light greenish grey, grades to claystone.	0.2 (100:0:0:0:0)
573 (1.1)	100	MARL, a.a.	0.2 (100:0:0:0:0)
576 (1.6)	100	MARL, a.a.	0.8 (100:0:0:0:0)
579 (1.0)	100	MARL, a.a.	0.0 (97:3:0:0:0)
582 (1.3)	100	MARL, a.a.	0.0 (100:0:0:0:0)
585 (1.3)	100	MARL, a.a. – grades to claystone.	0.5 (100:0:0:0:0)
588 (1.1)	100	MARL, a.a. – grades to claystone.	0.0 (100:0:0:0:0)
591 (1.1)	100	MARL, a.a. – pale greenish white to greenish grey, very argillaceous and grades to claystone.	0.5 (100:0:0:0:0)
594 (1.0)	100	MARL, a.a. – grades to claystone.	1.0 (100:0:0:0:0)
597 (1.1)	100	MARL, a.a.	0.0 (100:0:0:0:0)
600 (1.0)	100	MARL, a.a. – pale to moderate green to grey-green, soft, very argillaceous and grades to claystone.	0.7 (100:0:0:0:0)
603 (1.4)	100	MARL, a.a.	2.2 (100:0:0:0:0)
606 (1.0)	100	MARL, a.a. – rare pyrite.	0.5 (100:0:0:0:0)
609 (1.0)	100	MARL, a.a.	1.2 (100:0:0:0:0)
612 (1.1)	100	MARL, a.a.	2.2 (100:0:0:0:0)
615 (1.2)	100	MARL, a.a. – grades to claystone.	1.7 (100:0:0:0:0)
618 (1.1)	100	MARL, a.a. – grades to claystone, trace green / black glauconitic pellets.	1.8 (100:0:0:0:0)
621 (1.2)	100	MARL, a.a.	3.0 (100:0:0:0:0)
624 (1.4)	100	MARL, a.a.- grades to claystone.	2.2 (100:0:0:0:0)
627 (1.5)	100	MARL, a.a.	2.5 (100:0:0:0:0)
630 (1.2)	100	MARL, a.a. – pale greenish white to light greenish grey, pale brown to grey-brown, soft, green glauconitic staining, minor fossil fragments, very argillaceous and grades to claystone.	3.2 (100:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
633 (1.7)	100	MARL, a.a.	2.8 (100:0:0:0:0)
636 (1.3)	100	MARL, white to pale brown, minor pale green, soft, very argillaceous and grades to claystone.	2.5 (100:0:0:0:0)
639 (1.4)	100	MARL, a.a.	2.3 (100:0:0:0:0)
642 (1.5)	100	MARL, a.a.	1.5 (100:0:0:0:0)
645 (1.4)	100	MARL, a.a.	2.5 (100:0:0:0:0)
648 (1.4)	100	MARL, a.a.	1.5 (100:0:0:0:0)
651 (1.3)	100	MARL, a.a.	1.2 (100:0:0:0:0)
654 (1.3)	100	MARL, a.a. – minor glauconitic nodules	1.8 (100:0:0:0:0)
657 (1.5)	100	MARL, a.a.	5.0 (100:0:0:0:0)
660 (1.4)	100	MARL, white to pale greenish white, soft to firm, very argillaceous and calcareous, abundant (5%) green to black glauconite nodules / pellets.	6.3 (100:0:0:0:0)
663 (1.4)	100	MARL, a.a.	1.3 (100:0:0:0:0)
666 (1.3)	100	MARL, a.a. – white to greenish white, very pale grey-brown, soft, very argillaceous and calcareous, abundant (5%) glauconite nodules.	1.8 (100:0:0:0:0)
669 (1.2)	100	MARL, a.a.	2.2 (100:0:0:0:0)
672 (1.4)	100	MARL, a.a.	1.2 (100:0:0:0:0)
675 (1.1)	100	MARL, a.a.	2.5 (100:0:0:0:0)
678 (1.4)	100	MARL, a.a. – abundant glauconite (5%).	3.0 (100:0:0:0:0)
681 (1.6)	100	MARL, a.a. – abundant glauconite (5-10%).	1.5 (100:0:0:0:0)
684 (4.9)	100	MARL, a.a.	1.8 (100:0:0:0:0)
687 (1.3)	100	MARL, a.a.	3.8 (100:0:0:0:0)
690 (1.2)	20 80	SANDSTONE, light brown, very fine, sub-angular to sub-rounded, well sorted, calcareous, fair inferred porosity, grades to limestone in part. MARL, light brown, light greenish grey, soft to firm, very argillaceous, calcareous, abundant green glauconite pellets.	11.0 (100:0:0:0:0)
693 (0.7)	20 80	SANDSTONE, a.a. MARL, a.a.	13.7 (100:0:0:0:0)
696 (0.6)	10 80 10	SANDSTONE, a.a. MARL, a.a. COAL, very dark brown to black, dull to sub-vitreous lustre, tabular to conchoidal fracture, gas bleeding from some joints / fractures.	7.3 (100:0:0:0:0)
699 (0.6)	10 80 10	SANDSTONE, a.a. MARL, a.a. COAL, a.a. – coal percentage is probably > 50% but is not present in the fine fraction as it is mostly in 2cm. or larger pieces.	157.7 (100:0:0:0:0)
702 (0.6)	70 20 10	SANDSTONE, translucent pale brown, fine to medium, occasionally coarse, sub-rounded, moderate sorted, loose quartz grains, good porosity. MARL, a.a. COAL, a.a.	286.5 (100:0:0:0:0)
705 (0.6)	80 20	SANDSTONE, a.a. MARL, a.a.	184.7 (100:0:0:0:0)
708 (1.1)	80 20	SANDSTONE, translucent pale brown, fine to medium, occasionally coarse, sub-angular to sub-rounded, moderate sorted, loose, very good porosity. COAL, a.a.	205.2 (100:0:0:0:0)
711 (0.8)	90 10	SANDSTONE, a.a. COAL, a.a.	161.7 (100:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
714 (0.8)	90 10	SANDSTONE, a.a. COAL, a.a.	56.8 (100:0:0:0:0)
717 (0.8)	90 10	SANDSTONE, a.a. – medium to coarse, occasionally very coarse, minor dispersive silty, argillaceous and carbonaceous matrix, generally loose, very good porosity. COAL, a.a.	37.7 (100:0:0:0:0)
720 (0.7)	90 10	SANDSTONE, a.a. COAL, a.a.	12.8 (100:0:0:0:0)
723 (0.6)	100 Tr	SANDSTONE, a.a. – sub-angular to rounded, very good porosity. COAL, a.a.	41.3 (100:0:0:0:0)
726 (0.5)	100 Tr	SANDSTONE, a.a COAL, a.a.	66.0 (100:0:0:0:0)
729 (1.8)	100	SANDSTONE, clear to translucent white, medium to very coarse, sub-angular to rounded, moderate sorted, loose, very good porosity.	16.5 (100:0:0:0:0)
732 (2.7)	100	SANDSTONE, a.a.	6.2 (100:0:0:0:0)
735 (2.1)	100	SANDSTONE, a.a.	5.2 (100:0:0:0:0)
738 (1.1)	100	SANDSTONE, a.a. – medium to very coarse, angular (fractured) to rounded quartz grains, minor coloured chert grains, trace pyrite encrusted and cemented quartz grains, loose, very good porosity.	5.3 (100:0:0:0:0)
741 (0.9)	100	SANDSTONE, a.a.	8.7 (100:0:0:0:0)
744 (1.7)	100	SANDSTONE, a.a.	6.8 (100:0:0:0:0)
747 (1.5)	100	SANDSTONE, a.a.	7.3 (100:0:0:0:0)
750 (1.9)	100	SANDSTONE, a.a.	5.8 (100:0:0:0:0)
753 (0.9)	100	SANDSTONE, a.a.	3.0 (100:0:0:0:0)
756 (1.3)	100	SANDSTONE, a.a. - medium to very coarse, very good porosity.	4.0 (100:0:0:0:0)
759 (0.8)	100	SANDSTONE, a.a.	3.2 (100:0:0:0:0)
762 (0.8)	100	SANDSTONE, a.a.	4.0 (100:0:0:0:0)
765 (0.8)	100	SANDSTONE, a.a.	4.8 (100:0:0:0:0)
768 (1.5)	100	SANDSTONE, a.a. – medium to very coarse, sub-angular to rounded, moderate sorted, very good porosity.	1.0 (100:0:0:0:0)
771 (2.3)	100	SANDSTONE, a.a.	1.0 (100:0:0:0:0)
774 (1.9)	100	SANDSTONE, a.a. – predominantly medium to coarse, very good porosity.	1.3 (100:0:0:0:0)
777 (1.9)	100	SANDSTONE, a.a.	1.7 (100:0:0:0:0)
780 (1.2)	100	SANDSTONE, a.a. – medium to very coarse.	1.8 (100:0:0:0:0)
783 (1.2)	100	SANDSTONE, a.a.	1.3 (100:0:0:0:0)
786 (0.8)	100	SANDSTONE, a.a.	1.3 (100:0:0:0:0)
789 (0.8)	100	SANDSTONE, a.a.	2.0 (100:0:0:0:0)
792 (0.7)	100	SANDSTONE, a.a.	1.0 (100:0:0:0:0)
795 (0.6)	100	SANDSTONE, a.a.	1.7 (100:0:0:0:0)
798 (1.0)	100	SANDSTONE, a.a.	1.0 (100:0:0:0:0)
801 (0.7)	100	SANDSTONE, a.a.	1.0 (100:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
804 (0.7)	100	SANDSTONE, translucent white, fine to very coarse, predominantly medium to coarse, sub-angular to rounded, moderate sorted, loose quartz grains, very good porosity.	0.5 (100:0:0:0:0)
807 (0.6)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
810 (0.7)	100	SANDSTONE, a.a. – translucent white, translucent very pale brown.	0.2 (100:0:0:0:0)
813 (0.6)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
816 (1.0)	100	SANDSTONE, a.a.	0.8 (100:0:0:0:0)
819 (0.9)	100	SANDSTONE, a.a.	0.5 (100:0:0:0:0)
822 (0.8)	100	SANDSTONE, a.a.	0.8 (100:0:0:0:0)
825 (0.6)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
828 (0.8)	100	SANDSTONE, a.a. – translucent white, fine to very coarse, very good porosity.	0.0 (100:0:0:0:0)
831 (0.8)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
834 (1.0)	100	SANDSTONE, a.a. – medium to very coarse.	0.0 (100:0:0:0:0)
837 (1.2)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
840 (1.1)	100	SANDSTONE, a.a. – granular in part.	0.0 (100:0:0:0:0)
843 (1.4)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
846 (1.4)	100 Tr	SANDSTONE, a.a. – medium to very coarse, granular in part, loose, very good porosity. SILTSTONE, medium to dark brown, argillaceous, very carbonaceous.	0.7 (100:0:0:0:0)
849 (7.1)	50 50	SANDSTONE, a.a. COAL, very dark brown to black, sub-vitreous lustre, tabular to platey fracture.	1.0 (100:0:0:0:0)
852 (2.1)	100 Tr	SANDSTONE, a.a. – clear to white, translucent pale brown, medium to very coarse, loose, very good porosity. COAL, a.a. – silty and argillaceous in part.	0.1 (100:0:0:0:0)
855 (3.5)	100 Tr	SANDSTONE, a.a. COAL, a.a.	0.3 (100:0:0:0:0)
858 (4.0)	100 Tr	SANDSTONE, a.a. COAL, a.a.	1.0 (100:0:0:0:0)
861 (2.8)	90 10	SANDSTONE, a.a. – predominantly coarse to very coarse. COAL, a.a.	1.0 (100:0:0:0:0)
864 (3.1)	100 Tr	SANDSTONE, a.a. – medium to very coarse, very good porosity. CLAYSTONE, light to moderate brown, soft, dispersive, silty, carbonaceous.	0.8 (100:0:0:0:0)
867 (0.8)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	1.5 (100:0:0:0:0)
870 (1.2)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	1.0 (100:0:0:0:0)
873 (1.4)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	1.0 (100:0:0:0:0)
876 (2.8)	100 Tr	SANDSTONE, a.a. – coarse to very coarse, granular in part, angular to sub-angular, moderate sorted, loose quartz grains, very good porosity. COAL, a.a.	0.8 (100:0:0:0:0)
879 (1.7)	100 Tr	SANDSTONE, a.a. COAL, a.a.	0.0 (100:0:0:0:0)
882 (1.3)	100	SANDSTONE, a.a. – coarse to very coarse, angular to sub-rounded, very good porosity.	0.0 (100:0:0:0:0)
885 (1.3)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
888 (1.5)	80 10 10	SANDSTONE, a.a. CLAYSTONE, white, light to dark brown, soft, dispersive, carbonaceous, silty in part. COAL, a.a.	0.0 (100:0:0:0:0)
891 (2.5)	80 10 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	0.0 (100:0:0:0:0)
894 (5.3)	100 Tr	SANDSTONE, a.a. – coarse to very coarse, sub-angular to rounded. COAL, a.a.	0.2 (100:0:0:0:0)
897 (4.9)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	0.5 (100:0:0:0:0)
900 (2.6)	60 30 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	0.2 (100:0:0:0:0)
903 (2.7)	60 30 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	0.2 (100:0:0:0:0)
906 (2.1)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	0.0 (100:0:0:0:0)
909 (1.8)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	0.0 (100:0:0:0:0)
912 (1.4)	50 50	SANDSTONE, a.a. – medium to very coarse. Sub-angular to sub-rounded, very good porosity. CLAYSTONE, a.a.	0.3 (100:0:0:0:0)
915 (7.1)	100	SANDSTONE, a.a. – medium to very coarse, sub-angular to rounded, very good porosity.	0.2 (100:0:0:0:0)
918 (1.4)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	0.7 (95:5:0:0:0)
921 (3.1)	70 20 10	SANDSTONE, a.a. CLAYSTONE, light to dark brown, soft to firm, carbonaceous, dispersive, silty in part. COAL, a.a.	1.3 (95:5:0:0:0)
924 (1.6)	80 10 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	2.0 (100:0:0:0:0)
927 (2.0)	90 Tr 10	SANDSTONE, a.a. – coarse to very coarse, sub-angular to rounded, very good porosity. CLAYSTONE, a.a. COAL, a.a.	2.8 (96:4:0:0:0)
930 (1.8)	90 Tr 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	2.0 (100:0:0:0:0)
933 (2.1)	70 20 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	1.0 (100:0:0:0:0)
936 (1.7)	60 20 20	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	1.0 (100:0:0:0:0)
939 (1.9)	100 Tr	SANDSTONE, a.a. – medium to very coarse, trace brown lignitic clay matrix / stain, loose, very good porosity. COAL, a.a.	1.7 (100:0:0:0:0)
942 (5.2)	100	SANDSTONE, a.a.	1.5 (100:0:0:0:0)
945 (3.9)	100	SANDSTONE, clear to translucent white, translucent very pale brown, predominantly coarse to very coarse, sub-angular to rounded, moderate sorted, trace brown lignitic clay matrix, loose, very good porosity.	1.5 (100:0:0:0:0)
948 (1.5)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
951 (2.8)	60 10 30	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	0.8 (100:0:0:0:0)
954 (1.7)	60 10 30	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	1.5 (100:0:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
957 (1.6)	50 10 40	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	1.8 (100:0:0:0:0)
960 (2.1)	40 10 50	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	1.3 (98:2:0:0:0)
963 (2.2)	70 30	SANDSTONE, a.a. COAL, a.a.	1.3 (98:2:0:0:0)
966 (1.5)	80 20	SANDSTONE, a.a. – medium to very coarse, common orange-brown chert? grains, loose, very good porosity. COAL, a.a.	1.0 (98:2:0:0:0)
969 (1.5)	100	SANDSTONE, a.a.	1.7 (100:0:0:0:0)
972 (1.3)	100	SANDSTONE, a.a. – medium to granular.	1.0 (100:0:0:0:0)
975 (1.4)	100	SANDSTONE, a.a.	1.7 (100:0:0:0:0)
978 (2.1)	100	SANDSTONE, a.a.	1.7 (100:0:0:0:0)
981 (2.4)	100	SANDSTONE, a.a.	1.0 (100:0:0:0:0)
984 (1.7)	100	SANDSTONE, a.a.	1.3 (97:3:0:0:0)
987 (2.6)	100	SANDSTONE, a.a.	1.3 (97:3:0:0:0)
990 (3.3)	100	SANDSTONE, a.a.	1.0 (94:6:0:0:0)
993 (3.7)	70 10 20	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	1.3 (94:6:0:0:0)
996 (4.3)	100	SANDSTONE, a.a.	1.0 (94:6:0:0:0)
999 (0.9)	100 Tr	SANDSTONE, a.a. COAL, a.a.	1.0 (94:6:0:0:0)
1002 (2.4)	100 Tr	SANDSTONE, a.a. – medium to very coarse. CLAYSTONE, a.a.	1.0 (94:6:0:0:0)
1005 (3.6)	100 Tr	SANDSTONE, a.a. COAL, a.a.	1.0 (94:6:0:0:0)
1008 (2.2)	100 Tr	SANDSTONE, a.a. COAL, a.a.	1.0 (93:7:0:0:0)
1011 (1.7)	100 Tr	SANDSTONE, a.a. COAL, a.a.	1.0 (93:7:0:0:0)
1014 (3.3)	100	SANDSTONE, a.a.	1.0 (93:7:0:0:0)
1017 (2.6)	100	SANDSTONE, a.a.	0.8 (93:7:0:0:0)
1020 (2.6)	100	SANDSTONE, a.a.	1.0 (93:7:0:0:0)
1023 (1.7)	100	SANDSTONE, a.a.	1.0 (93:7:0:0:0)
1026 (0.7)	100	SANDSTONE, a.a. – sub-angular to sub-rounded, moderate sorted, very good porosity.	1.0 (93:7:0:0:0)
1029 (0.6)	100	SANDSTONE, a.a.	1.0 (93:7:0:0:0)
1032 (0.9)	100	SANDSTONE, a.a. – angular to sub-rounded.	1.0 (92:8:0:0:0)
1035 (1.6)	100	SANDSTONE, a.a.	1.0 (91:9:0:0:0)
1038 (0.8)	100	SANDSTONE, translucent white, medium to very coarse, angular to sub-rounded, moderate sorted, loose quartz grains, very good porosity.	1.0 (92:8:0:0:0)
1041 (2.2)	100	SANDSTONE, a.a.	1.0 (91:9:0:0:0)
1044 (4.1)	100 Tr	SANDSTONE, a.a. COAL, a.a.	1.0 (90:10:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1047 (4.0)	90 10	SANDSTONE, a.a. COAL, a.a.	1.0 (91:9:0:0:0)
1050 (3.9)	100	SANDSTONE, a.a. – sub-angular to sub-rounded, trace white clay matrix, very good porosity.	1.0 (94:6:0:0:0)
1053 (1.3)	100	SANDSTONE, a.a.	1.0 (96:4:0:0:0)
1056 (1.1)	100	SANDSTONE, a.a.	1.0 (97:3:0:0:0)
1059 (1.3)	100	SANDSTONE, a.a.	0.8 (98:2:0:0:0)
1062 (2.3)	100	SANDSTONE, a.a. – mostly coarse to very coarse, angular to sub-rounded, very good porosity.	1.0 (100:0:0:0:0)
1065 (1.1)	100	SANDSTONE, a.a.	0.2 (100:0:0:0:0)
1068 (1.2)	100	SANDSTONE, a.a. – medium to very coarse, angular to sub-rounded.	0.2 (100:0:0:0:0)
1071 (1.5)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
1074 (1.3)	100	SANDSTONE, a.a. – medium to very coarse.	0.0 (100:0:0:0:0)
1077 (1.5)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
1080 (4.1)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
1083 (1.1)	100	SANDSTONE, a.a.	0.7 (100:0:0:0:0)
1086 (3.5)	90 10	SANDSTONE, a.a. COAL, a.a.	0.5 (100:0:0:0:0)
1089 (4.2)	90 10	SANDSTONE, a.a. COAL, a.a.	0.0 (100:0:0:0:0)
1092 (4.5)	100	SANDSTONE, a.a. – coarse to very coarse.	0.0 (100:0:0:0:0)
1095 (1.6)	100	SANDSTONE, a.a.	0.5 (100:0:0:0:0)
1098 (1.7)	100	SANDSTONE, a.a. – coarse to very coarse, sub-angular to rounded, poor to moderate sorted quartz grains, very good porosity.	0.7 (100:0:0:0:0)
1101 (1.0)	100	SANDSTONE, a.a. – medium to very coarse, angular to sub-rounded, poor to moderate sorted quartz grains, very good porosity.	1.0 (100:0:0:0:0)
1104 (1.2)	100	SANDSTONE, a.a.	0.7 (100:0:0:0:0)
1107 (1.0)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
1110 (2.8)	100	SANDSTONE, a.a.	1.0 (100:0:0:0:0)
1113 (2.6)	100	SANDSTONE, a.a.	0.8 (100:0:0:0:0)
1116 (2.0)	100	SANDSTONE, a.a.	0.2 (100:0:0:0:0)
1119 (3.1)	100	SANDSTONE, a.a.	0.7 (100:0:0:0:0)
1122 (4.2)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
1125 (3.8)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
1128 (5.8)	100	SANDSTONE, a.a. – medium to very coarse, sub-angular to rounded, poor to moderate sorted, loose quartz grains, very good porosity.	0.7 (100:0:0:0:0)
1131 (2.2)	100	SANDSTONE, a.a.	0.5 (100:0:0:0:0)
1134 (1.9)	100	SANDSTONE, a.a.	0.7 (100:0:0:0:0)
1137 (2.8)	100	SANDSTONE, a.a.	0.8 (100:0:0:0:0)
1140 (2.4)	100	SANDSTONE, a.a. – medium to coarse, occasional very coarse, sub-angular to sub-rounded, moderate sorted, loose, trace white argillaceous matrix.	1.0 (100:0:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1143 (2.1)	100	SANDSTONE, a.a. – medium to very coarse.	0.8 (100:0:0:0:0)
1146 (2.0)	100	SANDSTONE, a.a. – medium to coarse, some very coarse.	0.8 (100:0:0:0:0)
1149 (2.3)	100	SANDSTONE, a.a. – medium to very coarse.	1.0 (100:0:0:0:0)
1152 (5.3)	100	SANDSTONE, a.a. – medium to coarse.	1.0 (100:0:0:0:0)
1155 (2.2)	100	SANDSTONE, a.a.	0.5 (100:0:0:0:0)
1158 (3.0)	100	SANDSTONE, a.a.	0.3 (100:0:0:0:0)
1161 (3.2)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
1164 (2.7)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
1167 (2.8)	100	SANDSTONE, a.a. – medium to very coarse, sub-angular, loose, good porosity.	0.2 (100:0:0:0:0)
1170 (4.1)	100	SANDSTONE, a.a. – sub-angular to sub-rounded.	0.0 (100:0:0:0:0)
1173 (3.4)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
1176 (3.4)	100	SANDSTONE, a.a.	0.0 (100:0:0:0:0)
1179 (4.2)	100	SANDSTONE, a.a. – coarse to very coarse, sub-rounded, good porosity.	0.0 (100:0:0:0:0)
1182 (10.8)	50 50	SANDSTONE, a.a. CLAYSTONE, white to pale brown and grey-brown, soft, dispersive, amorphous, carbonaceous specks, silty in part.	0.2 (100:0:0:0:0)
1185 (7.8)	30 70	SANDSTONE, a.a. – rare pyrite. CLAYSTONE, a.a.	0.0 (100:0:0:0:0)
1188 (9.3)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	0.3 (100:0:0:0:0)
1191 (8.1)	100	SANDSTONE, a.a.	0.2 (100:0:0:0:0)
1194 (9.6)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	0.7 (100:0:0:0:0)
1197 (9.8)	80 20 Tr	SANDSTONE, a.a. CLAYSTONE, a.a COAL, a.a.	0.5 (93:7:0:0:0)
1200 (17.3)	40 60 Tr	SANDSTONE, a.a. CLAYSTONE, white to pale brown, soft, dispersive, amorphous, carbonaceous. COAL, a.a.	2.2 (93:7:0:0:0)
1203 (12.0)	70 30	SANDSTONE, translucent white, medium to very coarse, angular to sub-angular, moderate sorted, loose quartz grains, good porosity. CLAYSTONE, a.a.	2.0 (93:7:0:0:0)
1206 (5.6)	70 30	SANDSTONE, a.a. – angular to sub-rounded. CLAYSTONE, a.a.	1.5 (100:0:0:0:0)
1209 (7.8)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	1.2 (100:0:0:0:0)
1212 (5.1)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	1.8 (100:0:0:0:0)
1215 (7.3)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	1.5 (100:0:0:0:0)
1218 (12.2)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	1.0 (100:0:0:0:0)
1221 (7.8)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	1.0 (100:0:0:0:0)
1224 (7.4)	90 10	SANDSTONE, translucent white, medium to very coarse, angular to sub-rounded, poor to moderate sorted, loose quartz grains, minor grey and grey-green chert and fine grained sandstone grains, rare pyrite cemented aggregates, good porosity. CLAYSTONE, a.a.	0.5 (100:0:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1227 (10.3)	100	SANDSTONE, a.a. – coarse to very coarse; minor white to cream very fine to fine grained silica cemented aggregates, trace pyrite cemented fine grained aggregates.	0.8 (100:0:0:0:0)
	Tr	CLAYSTONE, a.a.	
1230 (27.6)	80	SANDSTONE, predominantly translucent white, medium to very coarse loose quartz grains; also some white to cream, fine to coarse silica cemented aggregates with poor porosity; minor pyrite cemented aggregates.	2.2 (96:4:0:0:0)
	20	CLAYSTONE, white to pale bluish grey, soft amorphous, silty in part.	
1233 (14.9)	50	SANDSTONE, a.a.	11.0 (99:1:0:0:0)
	50	CLAYSTONE, a.a.	
1236 (6.6)		Depth Correction 1233 = 1239m.	9.8 (99:1:0:0:0)
1239 (19.1)		Depth Correction 1233 = 1239m.	11.0 (99:1:0:0:0)
1242 (3.4)	20	SANDSTONE, translucent white, medium to very coarse quartz grains, sub-angular to sub-rounded, poor to moderate sorted, loose.	1.2 (100:0:0:0:0)
	80	CLAYSTONE, predominantly pale grey to bluish grey, soft to firm, silty, calcareous in part; minor moderate to dark brown, carbonaceous.	
1245 (3.0)	20	SANDSTONE, a.a.	4.3 (100:0:0:0:0)
	80	CLAYSTONE, a.a.	
1248 (3.0)	10	SANDSTONE, a.a.	12.3 (99:1:0:0:0)
	90	CLAYSTONE, a.a.	
1251 (2.4)	60	SANDSTONE, white to light grey, very fine to fine, sub-rounded, moderate sorted quartz, lithic and feldspar grains, micaceous, abundant clay matrix, calcareous with weak to moderate calcite cement, poor porosity.	10.0 (99:1:0:0:0)
	40	CLAYSTONE, a.a. – silty and sandy in part.	
1254 (2.9)	50	SANDSTONE, a.a. – trace pyrite.	19.2 (99:1:0:0:0)
	50	CLAYSTONE, a.a.	
1257 (2.4)	80	SANDSTONE, light to moderate grey, fine to medium, sub-angular to sub-rounded, moderate to well sorted, abundant greenish grey to grey-black volcano-lithic grains, feldspathic, moderate to abundant clay matrix, calcareous, friable, poor to fair porosity.	756.0 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	
1260 (2.4)	70	SANDSTONE, a.a.	502.8 (98:2:0:0:0)
	30	CLAYSTONE, a.a.	
1263 (3.2)	20	SANDSTONE, a.a.	355.7 (99:1:0:0:0)
	80	CLAYSTONE, a.a.	
1266 (2.6)	20	SANDSTONE, a.a.	67.5 (99:1:0:0:0)
	80	CLAYSTONE, a.a.	
1269 (1.6)	10	SANDSTONE, white to pale grey, very fine to fine, sub-angular to sub-rounded, moderate to well sorted, lithic, feldspathic, micaceous, abundant argillaceous / clay matrix, trace pyrite, very poor porosity.	91.2 (99:1:0:0:0)
	90	CLAYSTONE, a.a.	
1272 (1.3)	40	SANDSTONE, white to pale bluish grey, very fine to fine, lithic, feldspathic, micaceous, abundant clay matrix, slightly calcareous, very poor porosity.	360.3 (99:1:0:0:0)
	60	CLAYSTONE, light grey, light bluish grey, soft to firm, occasionally silty and carbonaceous.	
	Tr	COAL, dark brown, lignitic.	
1275 (1.6)	80	SANDSTONE, a.a. – very fine to medium.	644.7 (99:1:0:0:0)
	20	CLAYSTONE, a.a.	
1278 (3.6)	80	SANDSTONE, light to dark grey, greenish grey, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz and green grey to black volcano-lithic grains, feldspathic, rare pyrite, dispersive clay matrix, common calcite and weak calcite cement, friable, poor porosity.	586.7 (99:1:0:0:0)
	20	CLAYSTONE, pale grey to pale greenish grey, soft to firm, silty, trace carbonaceous specks.	
1281 (1.5)	80	SANDSTONE, a.a. – trace pyrite and mica, rare white to greenish white tuff.	961.2 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	
1284 (1.7)	80	SANDSTONE, a.a.	937.2 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1287 (3.9)	80 20	SANDSTONE, a.a. – abundant calcite. CLAYSTONE, a.a.	657.0 (99:1:0:0:0)
1290 (3.4)	90 10	SANDSTONE, a.a. – weak to moderately calcareous, dispersive clay matrix. CLAYSTONE, a.a.	409.2 (99:1:0:0:0)
1293 (4.9)	30 70	SANDSTONE, a.a. – trace pyrite. CLAYSTONE, a.a.	191.0 (99:1:0:0:0)
1296 (3.7)	10 90	SANDSTONE, a.a. – predominantly fine, trace pyrite. CLAYSTONE, light to moderate grey to greenish grey, firm, blocky, trace carbonaceous specks, silty in part.	157.8 (99:1:0:0:0)
1299 (3.0)	20 80	SANDSTONE, a.a. – trace pyrite. CLAYSTONE, a.a.	157.7 (99:1:0:0:0)
1302 (2.7)	70 30	SANDSTONE, white to pale greenish grey, very fine to fine, very argillaceous with grains being matrix supported in part, moderately calcareous, very poor porosity. CLAYSTONE, a.a.	221.2 (99:1:0:0:0)
1305 (3.4)	70 30	SANDSTONE, a.a. – very argillaceous. CLAYSTONE, a.a.	206.8 (99:1:0:0:0)
1308 (1.7)	70 30	SANDSTONE, a.a. – very fine to medium, abundant clay matrix, poor porosity. CLAYSTONE, a.a.	278.2 (100:0:0:0:0)
1311 (2.0)	80 20	SANDSTONE, white to pale grey, green to greenish grey, fine to medium, sub-angular to sub-rounded, moderate to well sorted quartz, feldspar and volcano-lithic grains, abundant dispersive clay matrix, slightly calcareous, poor porosity. CLAYSTONE, a.a.	609.5 (99:1:0:0:0)
1314 (2.9)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	275.2 (99:1:0:0:0)
1317 (2.2)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	171.5 (99:1:0:0:0)
1320 (2.1)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	74.5 (98:2:0:0:0)
1323 (2.7)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a.	74.2 (99:1:0:0:0)
1326 (3.8)	20 80	SANDSTONE, a.a. CLAYSTONE, light grey to grey-green, pale brown to grey-brown, soft to firm, blocky, silty in part.	138.7 (99:1:0:0:0)
1329 (3.6)	90 10	SANDSTONE, white to pale grey, moderate to dark grey-green, fine to medium, sub-rounded, moderate to well sorted quartz, feldspar and multi-coloured volcano-lithic grains with a dispersive argillaceous matrix, weak to moderate calcite cement, friable, poor porosity. CLAYSTONE, a.a.	174.3 (100:0:0:0:0)
1332 (3.7)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	194.8 (100:0:0:0:0)
1335 (3.7)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	264.3 (100:0:0:0:0)
1338 (4.7)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	159.7 (99:1:0:0:0)
1341 (3.6)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	123.3 (99:1:0:0:0)
1344 (2.6)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a.	78.5 (98:2:0:0:0)
1347 (2.5)	90 10	SANDSTONE, white to pale grey, grey-green to grey-black, fine to medium, sub-angular to sub-rounded, moderate to well sorted quartz, feldspar and quartzitic volcano-lithic grains, dispersive clay matrix, friable, poor porosity. CLAYSTONE, a.a.	419.2 (99:1:0:0:0)
1350 (3.2)	100	SANDSTONE, a.a. – trace mica flakes.	350.3 (100:0:0:0:0)
1353 (2.4)	80 20	SANDSTONE, a.a. – very argillaceous, very poor porosity. CLAYSTONE, a.a.	111.8 (99:1:0:0:0)
1356 (2.9)	80 20	SANDSTONE, a.a. – very fine to fine, poor porosity. CLAYSTONE, a.a.	191.7 (99:1:0:0:0)
1359 (2.2)	100	SANDSTONE, a.a. – very fine to medium, weak to moderate calcite cement and calcite grains, poor porosity.	247.8 (100:0:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1362 (2.4)	100	SANDSTONE, a.a. – calcareous, poor porosity.	243.2 (99:1:0:0:0)
1365 (2.1)	100	SANDSTONE, a.a. – common calcite grains, dispersive clay matrix, poor porosity.	178.2 (99:1:0:0:0)
1368 (1.3)	50 50	SANDSTONE, a.a. CLAYSTONE, white to light grey, grey-green, pale brown, soft, silty in part.	221.7 (99:1:0:0:0)
1371 (3.0)	90 10	SANDSTONE, a.a. – very slightly calcareous, poor porosity. CLAYSTONE, a.a.	334.5 (100:0:0:0:0)
1374 (3.2)	100	SANDSTONE, a.a. – non calcareous, dispersive clay matrix, trace mica flakes, poor porosity.	318.3 (99:1:0:0:0)
1377 (2.5)	100	SANDSTONE, a.a.	268.3 (100:0:0:0:0)
1380 (2.1)	100	SANDSTONE, a.a. – very fine to medium, poor porosity.	296.3 (100:0:0:0:0)
1383 (2.2)	100	SANDSTONE, a.a. – slightly calcareous, poor porosity.	240.0 (100:0:0:0:0)
1386 (2.2)	100	SANDSTONE, a.a.	334.3 (100:0:0:0:0)
1389 (2.0)	100	SANDSTONE, a.a.	334.3 (100:0:0:0:0)
1392 (2.2)	100	SANDSTONE, a.a.	372.3 (100:0:0:0:0)
1395 (2.1)	100	SANDSTONE, white to light grey, grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz, feldspar and quartzitic volcano-lithic grains, trace mica, dispersive clay matrix, slightly calcareous, friable, poor to occasional fair porosity.	313.2 (99:1:0:0:0)
1398 (1.8)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	276.5 (100:0:0:0:0)
1401 (2.1)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	133.5 (99:1:0:0:0)
1404 (1.6)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	317.8 (100:0:0:0:0)
1407 (1.5)	100	SANDSTONE, a.a.	646.2 (99:1:0:0:0)
1410 (1.8)	100	SANDSTONE, a.a.	347.7 (99:1:0:0:0)
1413 (1.8)	100	SANDSTONE, a.a.	792.8 (98:2:0:0:0)
1416 (1.7)	100	SANDSTONE, a.a.	550.0 (99:1:0:0:0)
1419 (2.9)	100	SANDSTONE, a.a.	243.5 (98:2:0:0:0)
1422 (3.1)	100	SANDSTONE, a.a. – abundant dispersive clay matrix, friable, poor porosity.	171.0 (99:1:0:0:0)
1425 (3.4)	70 30 Tr	SANDSTONE, a.a. CLAYSTONE, white to pale grey-brown, soft, dispersive, amorphous. COAL, black, brittle, sub-vitreous lustre.	276.7 (100:0:0:0:0)
1428 (3.7)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	179.0 (99:1:0:0:0)
1431 (3.1)	70 30	SANDSTONE, a.a. – predominantly fine, very argillaceous, poor porosity. CLAYSTONE, a.a. – white to pale grey, grey-green, pale brown, dispersive.	317.7 (99:1:0:0:0)
1434 (3.5)	70 30 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	226.7 (99:1:0:0:0)
1437 (3.7)	30 70	SANDSTONE, a.a. CLAYSTONE, grey to grey-brown, grey-green, soft to firm, blocky, trace carbonaceous material.	74.2 (98:2:0:0:0)
1440 (3.5)	100	CLAYSTONE, light to moderate grey to grey-green, occasionally grey-brown, soft to firm, occasionally silty, minor plant / coal fragments.	199.7 (99:1:0:0:0)
1443 (3.5)	100	CLAYSTONE, a.a.	237.7 (99:1:0:0:0)
1446 (2.8)	100	CLAYSTONE, a.a.	286.8 (99:1:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1449 (2.8)	100	CLAYSTONE, a.a.	330.3 (99:1:0:0:0)
1452 (2.9)	100	CLAYSTONE, a.a.	204.3 (99:1:0:0:0)
1455 (2.6)	10 90	SANDSTONE, white to grey-green, very fine, sub-rounded, moderate to well sorted, lithic, feldspathic, abundant clay matrix, calcite cement, friable, very poor porosity. CLAYSTONE, a.a.	113.8 (98:2:0:0:0)
1458 (3.4)	10 90	SANDSTONE, a.a. CLAYSTONE, a.a.	91.3 (98:2:0:0:0)
1461 (2.2)	50 50	SANDSTONE, pale grey to moderate grey-green, fine to medium, occasionally coarse, sub-angular to sub-rounded, moderate sorted quartz, feldspar and quartzitic volcano-lithic grains, trace mica, moderate to abundant dispersive clay matrix, calcareous in part, friable, poor to occasional fair porosity. CLAYSTONE, a.a.,	183.2 (99:1:0:0:0)
1464 (2.7)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	546.7 (99:1:0:0:0)
1467 (3.8)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	146.5 (99:1:0:0:0)
1470 (2.8)	Tr 100	SANDSTONE, a.a. CLAYSTONE, white to pale brown, pale grey to moderate grey-green, soft to firm, dispersive in part, carbonaceous and silty in part.	163.2 (99:1:0:0:0)
1473 (2.8)	100	CLAYSTONE, a.a.	214.3 (99:1:0:0:0)
1476 (4.3)	100	CLAYSTONE, a.a.	177.0 (99:1:0:0:0)
1479 (3.2)	100	CLAYSTONE, a.a.	181.8 (99:1:0:0:0)
1482 (3.7)	10 90	SILTSTONE, white to pale brown, soft to firm, very argillaceous, sandy in part, carbonaceous specks. CLAYSTONE, a.a.	447.3 (99:1:0:0:0)
1485 (2.3)	20 80	SILTSTONE, a.a. CLAYSTONE, a.a.	177.2 (99:1:0:0:0)
1488 (3.1)	70 30	SANDSTONE, light to moderate grey to grey-green, very fine, sub-angular to sub-rounded, moderate to well sorted, lithic, feldspathic, abundant argillaceous matrix, calcareous in part, very poor porosity. CLAYSTONE, a.a.	466.0 (99:1:0:0:0)
1491 (2.5)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	329.0 (99:1:0:0:0)
1494 (1.8)	80 20	SANDSTONE, white to grey, grey-green to green, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz, feldspar and quartzitic volcano-lithic grains, dispersive clay matrix, calcareous in part, friable, poor porosity. CLAYSTONE, a.a.	572.3 (99:1:0:0:0)
1497 (1.7)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	302.2 (99:1:0:0:0)
1500 (2.5)	100	CLAYSTONE, a.a. – minor brown, carbonaceous.	789.7 (98:2:0:0:0)
1503 (1.9)	20 80	SANDSTONE, a.a. – very fine to fine. CLAYSTONE, a.a.	713.2 (98:2:0:0:0)
1506 (1.7)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a.	660.2 (99:1:0:0:0)
1509 (1.5)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	757.7 (99:1:0:0:0)
1512 (1.8)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	598.7 (99:1:0:0:0)
1515 (1.6)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	215.2 (99:1:0:0:0)
1518 (1.8)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	561.3 (99:1:0:0:0)
1521 (2.0)	80 20	SANDSTONE, a.a. – predominantly fine, poor porosity. CLAYSTONE, a.a.	601.2 (99:1:0:0:0)
1524 (2.0)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	289.3 (99:1:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1527	100	SANDSTONE, a.a.	559.8
(1.7)	Tr	COAL, black, sub-vitreous lustre.	(99:1:0:0:0)
1530	80	SANDSTONE, a.a.	1138.3
(2.0)	20	CLAYSTONE, a.a.	(98:2:0:0:0)
1533	90	SANDSTONE, a.a.	585.8
(3.3)	10	CLAYSTONE, a.a.	(98:2:0:0:0)
	Tr	COAL, a.a.	
1536	50	SANDSTONE, a.a.	521.7
(2.7)	50	CLAYSTONE, a.a.	(98:2:0:0:0)
1539	30	SANDSTONE, a.a. – green to grey-green, predominantly very fine to fine, lithic, feldspathic, trace mica, dispersive clay matrix, calcareous in part, friable, poor porosity.	208.5
(2.6)			(99:1:0:0:0)
	70	CLAYSTONE, a.a.	
1542	60	SANDSTONE, a.a.	164.0
(2.5)	40	CLAYSTONE, a.a.	(99:1:0:0:0)
1545	70	SANDSTONE, a.a.	244.2
(2.1)	30	CLAYSTONE, pale brown, light to moderate grey to grey-green, soft to firm, occasionally silty and carbonaceous.	(99:1:0:0:0)
1548	80	SANDSTONE, a.a.	391.2
(2.6)	20	CLAYSTONE, a.a.	(99:1:0:0:0)
1551	80	SANDSTONE, a.a.	298.7
(2.6)	20	CLAYSTONE, a.a.	(99:1:0:0:0)
1554	80	SANDSTONE, a.a.	344.0
(3.5)	20	CLAYSTONE, a.a.	(99:1:0:0:0)
1557	80	SANDSTONE, a.a.	275.0
(2.9)	20	CLAYSTONE, a.a.	(100:0:0:0:0)
1560	80	SANDSTONE, a.a.	239.2
(2.7)	20	CLAYSTONE, a.a.	(100:0:0:0:0)
1563	20	SANDSTONE, a.a.	62.8
(2.5)	10	SILTSTONE, dark grey-brown to black, firm, argillaceous, carbonaceous specks and laminae.	(99:1:0:0:0)
	70	CLAYSTONE, a.a.	
1566	20	SANDSTONE, a.a.	175.2
(2.7)	10	SILTSTONE, a.a.	(99:1:0:0:0)
	70	CLAYSTONE, pale grey-brown, light to moderate grey to grey-green, soft to firm, occasionally silty.	
1569	30	SANDSTONE, a.a.	134.2
(2.3)	10	SILTSTONE, a.a.	(99:1:0:0:0)
	60	CLAYSTONE, a.a.	
1572	30	SANDSTONE, a.a.	58.5
(1.4)	10	SILTSTONE, a.a.	(99:1:0:0:0)
	60	CLAYSTONE, a.a.	
1575	80	SANDSTONE, a.a. – white to pale grey, greenish grey to green, very fine to fine, sub-angular to sub-rounded, moderate sorted, feldspar and volcano-lithic grains, abundant dispersive clay matrix, calcareous in part, poor porosity.	78.5
(1.5)			(99:1:0:0:0)
	20	CLAYSTONE, a.a.	
1578	80	SANDSTONE, a.a.	513.0
(3.0)	10	SILTSTONE, a.a.	(99:1:0:0:0)
	10	CLAYSTONE, a.a.	
1581	80	SANDSTONE, a.a.	81.7
(3.1)	10	SILTSTONE, light to dark brown, soft to firm, argillaceous, carbonaceous specks.	(99:1:0:0:0)
	10	CLAYSTONE, a.a.	
1584	80	SANDSTONE, a.a.	216.8
(2.4)	10	SILTSTONE, a.a.	(99:1:0:0:0)
	10	CLAYSTONE, a.a.	
1587	80	SANDSTONE, a.a.	551.3
(2.1)	10	SILTSTONE, a.a.	(98:2:0:0:0)
	10	CLAYSTONE, a.a.	
1590	80	SANDSTONE, a.a.	237.3
(2.3)	10	SILTSTONE, a.a.	(99:1:0:0:0)
	10	CLAYSTONE, a.a.	

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1593 (2.3)	80 10 10	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	317.7 (100:0:0:0:0)
1596 (2.3)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	348.7 (99:1:0:0:0)
1599 (2.5)	100 Tr	SANDSTONE, white to light grey, grey-green, very fine to fine, sub-angular to sub-rounded, moderate sorted quartz, feldspar and volcano-lithic grains, dispersive argillaceous matrix, calcareous in part, friable, poor porosity. SILTSTONE, a.a.	205.3 (99:1:0:0:0)
1602 (2.4)	100	SANDSTONE, a.a.	218.3 (100:0:0:0:0)
1605 (2.5)	50 50	SANDSTONE, a.a. CLAYSTONE, light to moderate brown, grey-green, soft, dispersive, silty and carbonaceous in part.	368.2 (100:0:0:0:0)
1608 (2.7)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	319.7 (99:1:0:0:0)
1611 (2.6)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a. – silty and carbonaceous in part.	174.7 (99:1:0:0:0)
1614 (3.7)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	367.7 (99:1:0:0:0)
1617 (2.9)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	280.8 (100:0:0:0:0)
1620 (2.2)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	201.0 (99:1:0:0:0)
1623 (2.6)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	235.8 (99:1:0:0:0)
1626 (2.1)	100	SANDSTONE, white to pale grey, pale grey-green, very fine to fine, sub-angular to sub-rounded, moderate to well sorted, lithic, feldspathic, trace mica, dispersive clay matrix, calcareous in part, friable, poor porosity.	331.8 (99:1:0:0:0)
1629 (1.9)	50 50	SANDSTONE, a.a. CLAYSTONE, light brown, light grey-brown, soft, dispersive, silty and carbonaceous in part.	245.8 (99:1:0:0:0)
1632 (2.5)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	294.5 (99:1:0:0:0)
1635 (2.6)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a.	218.5 (99:1:0:0:0)
1638 (2.9)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a.	166.2 (99:1:0:0:0)
1641 (2.7)	70 30	CLAYSTONE, a.a. TUFF, pale grey-brown, soft to firm, silty and carbonaceous in part.	247.5 (99:1:0:0:0)
1644 (3.6)	80 20	CLAYSTONE, a.a. TUFF, a.a.	541.2 (99:1:0:0:0)
1647 (2.4)	20 70 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	458.3 (98:2:0:0:0)
1650 (2.8)	20 70 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	584.2 (99:1:0:0:0)
1653 (2.1)	10 90	SILTSTONE, moderate to dark brown, soft to firm, argillaceous, carbonaceous. CLAYSTONE, a.a.	153.8 (99:1:0:0:0)
1656 (2.7)	10 90	SILTSTONE, a.a. CLAYSTONE, a.a.	438.7 (99:1:0:0:0)
1659 (2.8)	50 10 40	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	483.2 (99:1:0:0:0)
1662 (2.0)	100 Tr	SANDSTONE, a.a. – very fine to fine, occasionally medium. SILTSTONE, a.a.	336.7 (99:1:0:0:0)
1665 (2.1)	90 Tr 10	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	536.7 (99:1:0:0:0)
1668 (2.5)	80 Tr 20	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	307.2 (99:1:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1671 (2.0)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	251.7 (99:1:0:0:0)
1674 (2.6)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	311.8 (100:0:0:0:0)
1677 (3.8)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	189.0 (100:0:0:0:0)
1680 (3.3)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	113.0 (99:1:0:0:0)
1683 (3.3)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a.	206.0 (99:1:0:0:0)
1686 (3.8)	20 80	SILTSTONE, light to dark brown, soft to firm, very argillaceous, carbonaceous, grades to coal in part. CLAYSTONE, grey to grey-green, soft to firm, silty and carbonaceous in part.	224.8 (99:1:0:0:0)
1689 (3.2)	20 20 60	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	345.7 (98:2:0:0:0)
1692 (2.8)	30 20 50	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	213.7 (99:1:0:0:0)
1695 (2.5)	20 30 50	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	213.2 (99:1:0:0:0)
1698 (2.5)	40 20 40	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	337.8 (100:0:0:0:0)
1701 (3.3)	70 10 20 Tr	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	322.2 (99:1:0:0:0)
1704 (3.7)	80 10 10	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	280.5 (99:1:0:0:0)
1707 (3.3)	80 10 10	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	550.7 (98:2:0:0:0)
1710 (2.9)	80 10 10	SANDSTONE, a.a. SILTSTONE, a.a. – tuffaceous in part. CLAYSTONE, a.a.	565.2 (99:1:0:0:0)
1713 (3.5)	80 10 10	SANDSTONE, white to pale grey, grey-green, very fine to fine, sub-angular to sub-rounded, moderate to well sorted quartz, lithic and quartzitic volcano-lithic grains, dispersive argillaceous matrix, trace mica, slightly calcareous, poor porosity. SILTSTONE, a.a. CLAYSTONE, a.a.	544.3 (99:1:0:0:0)
1716 (3.8)	80 10 10	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	394.8 (99:1:0:0:0)
1719 (3.1)	100 Tr Tr	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	437.8 (99:1:0:0:0)
1722 (3.1)	100 Tr Tr	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	309.8 (99:1:0:0:0)
1725 (3.9)	60 20 20	SANDSTONE, a.a. SILTSTONE, a.a. – tuffaceous in part. CLAYSTONE, a.a.	337.8 (99:1:0:0:0)
1728 (3.9)	30 20 30 20	SANDSTONE, light to moderate grey, grey-green, very fine to fine, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, abundant clay matrix, silty in part, very poor porosity. SILTSTONE, a.a. – tuffaceous. CLAYSTONE, a.a. TUFF, light to moderate grey-brown, tabular / angular fracture, silty in part.	406.7 (99:1:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1731 (5.5)	80 10 10	SANDSTONE, a.a. – very fine to medium, poor porosity. CLAYSTONE, a.a. TUFF, a.a.	212.0 (99:1:0:0:0)
1734 (4.2)	80 10 10	SANDSTONE, a.a. – very poor porosity. CLAYSTONE, a.a. TUFF, a.a.	29.5 (99:1:0:0:0)
1737 (4.7)	80 10 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	43.3 (99:1:0:0:0)
1740 (4.7)	80 10 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	254.0 (99:1:0:0:0)
1743 (4.1)	100 Tr Tr	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	191.2 (99:1:0:0:0)
1746 (3.8)	100	SANDSTONE, a.a.	305.8 (99:1:0:0:0)
1749 (3.9)	100	SANDSTONE, light to dark grey to grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz, feldspar and volcano-lithic grains, calcareous in part, trace mica, cm, friable, poor porosity.	490.0 (98:2:0:0:0)
1752 (3.3)	40 10 40 10	SANDSTONE, a.a. SILTSTONE, moderate to dark brown, carbonaceous, also light brown to grey-brown, argillaceous and tuffaceous. CLAYSTONE, light to moderate grey, grey-green, silty and tuffaceous. TUFF, light grey to grey-brown, silty and carbonaceous in part.	153.5 (99:1:0:0:0)
1755 (3.1)	30 20 50	SANDSTONE, a.a. – mostly very fine to fine. SILTSTONE, a.a. CLAYSTONE, a.a.	214.2 (99:1:0:0:0)
1758 (4.5)	70 20 10	SANDSTONE, a.a. SILTSTONE, a.a. CLAYSTONE, a.a.	340.3 (99:1:0:0:0)
1761 (5.2)	100	SANDSTONE, a.a. – very fine to medium, poor porosity.	272.3 (99:1:0:0:0)
1764 (5.0)	70 30 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	114.5 (99:1:0:0:0)
1767 (4.6)	90 10 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, dark brown to black, lignitic.	217.2 (99:1:0:0:0)
1770 (4.1)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	188.7 (99:1:0:0:0)
1773 (3.2)	70 20 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, translucent pale brownish grey, soft to firm, silty and carbonaceous in part.	121.7 (99:1:0:0:0)
1776 (4.6)	70 20 10	SANDSTONE, a.a. – white to grey, grey-green, very fine to medium, moderate sorted, lithic, feldspathic, dispersive argillaceous matrix, friable, poor porosity. CLAYSTONE, a.a. TUFF, a.a.	170.8 (99:1:0:0:0)
1779 (4.6)	80 10 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	122.0 (99:1:0:0:0)
1782 (3.1)	70 20 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	70.7 (98:2:0:0:0)
1785 (2.3)	60 30 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	113.8 (99:1:0:0:0)
1788 (3.7)	80 10 10	SANDSTONE, a.a. – predominantly very fine to fine, occasionally medium, poor porosity. CLAYSTONE, a.a. TUFF, a.a.	175.0 (99:1:0:0:0)
1791 (4.0)	70 30	SANDSTONE, a.a. – mostly very fine to fine, occasionally medium. CLAYSTONE, a.a.	93.7 (99:1:0:0:0)

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1794 (4.0)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	218.7 (99:1:0:0:0)
1797 (3.9)	100	SANDSTONE, white to moderate grey, moderate to dark grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz, feldspar and volcano-lithic grains, minor calcite, dispersive clay matrix, friable, poor porosity.	259.8 (99:1:0:0:0)
1800 (4.0)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	62.8 (99:1:0:0:0)
1803 (4.1)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	340.5 (98:2:0:0:0)
1806 (4.6)	80 20	SANDSTONE, a.a. CLAYSTONE, light to dark grey and grey-green, light to moderate brown, soft to firm, dispersive, silty, carbonaceous and tuffaceous in part.	316.5 (99:1:0:0:0)
1809 (3.8)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	202.8 (99:1:0:0:0)
1812 (5.2)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	273.0 (99:1:0:0:0)
1815 (4.2)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	324.3 (98:2:0:0:0)
1818 (4.2)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	194.7 (98:2:0:0:0)
1821 (4.4)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	61.3 (98:2:0:0:0)
1824 (2.9)	80 20	SANDSTONE, a.a. CLAYSTONE, moderate to dark grey-green, firm, silty in part.	123.3 (98:2:0:0:0)
1827 (3.0)	70 20 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	213.0 (98:2:0:0:0)
1830 (4.0)	70 20 10	SANDSTONE, a.a. CLAYSTONE, a.a. TUFF, a.a.	297.0 (98:2:0:0:0)
1833 (4.0)	90 10	SANDSTONE, a.a. – predominantly very fine to fine, silty in part, abundant clay matrix, poor porosity. CLAYSTONE, a.a.	358.5 (99:1:0:0:0)
1836 (4.2)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a. – silty and tuffaceous in part.	303.0 (98:2:0:0:0)
1839 (4.3)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	212.8 (99:1:0:0:0)
1842 (4.2)	90 10	SANDSTONE, light to moderate grey to grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted clear to white quartz, white to pinkish orange feldspar and grey-green to black volcano-lithic grains, minor calcite, dispersive clay matrix, friable, poor porosity. CLAYSTONE, a.a.	310.5 (99:1:0:0:0)
1845 (4.2)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	299.0 (99:1:0:0:0)
1848 (4.0)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	258.0 (99:1:0:0:0)
1851 (4.2)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	283.0 (99:1:0:0:0)
1854 (3.9)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	332.0 (99:1:0:0:0)
1857 (3.2)	100	SANDSTONE, a.a.	189.3 (99:1:0:0:0)
1860 (3.1)	100	SANDSTONE, a.a. – mostly very fine to fine, dispersive clay matrix, poor porosity.	294.7 (98:2:0:0:0)
1863 (3.3)	100	SANDSTONE, a.a.	515.7 (98:2:0:0:0)
1866 (5.2)	100	SANDSTONE, a.a.	319.0 (99:1:0:0:0)
1869 (6.0)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	175.7 (98:2:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1872 (5.5)	80 20	SANDSTONE, a.a. CLAYSTONE, light to moderate grey to grey-green, soft to firm, tuffaceous in part.	207.8 (98:2:0:0:0)
1875 (4.1)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	299.8 (98:2:0:0:0)
1878 (5.6)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	286.5 (98:2:0:0:0)
1881 (5.5)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	243.0 (98:2:0:0:0)
1884 (4.8)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	550.8 (99:1:0:0:0)
1887 (5.9)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	233.7 (99:1:0:0:0)
1890 (5.6)	60 40	SANDSTONE, a.a. CLAYSTONE, light to moderate grey to grey-green, light to dark brown, soft to firm, silty and carbonaceous in part.	193.3 (98:2:0:0:0)
1893 (5.1)	50 50	SANDSTONE, light to moderate grey to grey-green, very fine to fine, some medium, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, calcareous in part, clay matrix, friable, poor porosity. CLAYSTONE, a.a.	258.0 (98:2:0:0:0)
1896 (6.0)	10 90	SANDSTONE, a.a. CLAYSTONE, a.a.	65.7 (98:2:0:0:0)
1899 (6.2)	100	CLAYSTONE, light to moderate grey to grey-brown, grey-green, soft, occasionally silty.	55.2 (98:2:0:0:0)
1902 (4.5)	100	CLAYSTONE, a.a.	103.5 (98:2:0:0:0)
1905 (5.6)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	96.0 (98:2:0:0:0)
1908 (5.1)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	81.3 (98:2:0:0:0)
1911 (3.0)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	146.8 (98:2:0:0:0)
1914 (2.4)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	380.3 (98:2:0:0:0)
1917 (3.7)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	782.8 (98:2:0:0:0)
1920 (4.0)	100	SANDSTONE, a.a. – moderately calcareous, dispersive clay matrix, poor porosity.	766.8 (98:2:0:0:0)
1923 (3.9)	100 Tr Tr	SANDSTONE, a.a. – mostly very fine to fine. CLAYSTONE, a.a. COAL, dark brown to black, lignitic, grades to carbonaceous shale.	253.8 (98:2:0:0:0)
1926 (4.8)	90 10 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	227.5 (98:2:0:0:0)
1929 (4.4)	100 Tr Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	250.3 (99:1:0:0:0)
1932 (4.4)	100 Tr	SANDSTONE, a.a. – predominantly very fine to fine, some medium, lithic / feldspathic, moderately calcareous, clay matrix, friable, poor porosity. CLAYSTONE, a.a.	213.0 (98:2:0:0:0)
1935 (3.3)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	343.3 (98:2:0:0:0)
1938 (3.8)	100	SANDSTONE, a.a.	460.2 (98:2:0:0:0)
1941 (4.6)	100	SANDSTONE, a.a.	251.0 (99:1:0:0:0)
1944 (3.7)	100 Tr	SANDSTONE, a.a. – trace mica, poor porosity. CLAYSTONE, a.a.	242.7 (99:1:0:0:0)
1947 (3.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	333.8 (99:1:0:0:0)
1950 (4.9)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	436.2 (98:2:0:0:0)
1953 (4.9)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	170.7 (98:2:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
1956 (5.9)	100	SANDSTONE, a.a.	301.5 (98:2:0:0:0)
1959 (5.2)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	390.7 (98:2:0:0:0)
1962 (5.0)	60 40	SANDSTONE, a.a. CLAYSTONE, off-white to pale brown, occasionally dark brown, grey to grey-green, soft, dispersive, silty and carbonaceous in part.	118.2 (98:2:0:0:0)
1965 (4.9)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	169.5 (98:2:0:0:0)
1968 (5.1)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	211.2 (98:2:0:0:0)
1971 (6.6)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	391.0 (99:1:0:0:0)
1974 (5.3)	70 30	SANDSTONE, a.a. CLAYSTONE, pale grey to grey-green, pale brown, soft to firm, silty in part.	108.2 (98:2:0:0:0)
1977 (3.6)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	178.5 (98:2:0:0:0)
1980 (3.5)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	269.3 (98:2:0:0:0)
1983 (3.5)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	370.8 (98:2:0:0:0)
1986 (4.4)	90 10	SANDSTONE, a.a. – rare pyrite. CLAYSTONE, a.a.	227.8 (98:2:0:0:0)
1989 (5.2)	100	SANDSTONE, - moderately calcareous.	130.3 (98:2:0:0:0)
1992 (4.4)	100 Tr	SANDSTONE, a.a. – very fine to medium. CLAYSTONE, a.a.	203.8 (97:3:0:0:0)
1995 (4.7)	90 10 Tr	SANDSTONE, light to moderate grey to grey-green, very fine to medium, sub-angular to sub-rounded, moderate sorted quartz, pinkish white feldspar and grey-green volcano-lithic grains, minor calcite, dispersive clay matrix, friable, poor porosity. CLAYSTONE, light to dark grey, grey-green, soft to firm. COAL, very dark brown to black, lignitic.	200.8 (98:2:0:0:0)
1998 (6.2)	90 10 Tr	SANDSTONE, a.a. CLAYSTONE, .a.a COAL, a.a.	202.0 (98:2:0:0:0)
2001 (4.0)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	109.8 (98:2:0:0:0)
2004 (4.0)	100 Tr	SANDSTONE, a.a. – very fine to fine, poor porosity. CLAYSTONE, a.a.	266.2 (98:2:0:0:0)
2007 (4.2)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	313.7 (98:2:0:0:0)
2010 (5.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. – also moderate to dark grey-brown to black, carbonaceous.	225.7 (98:2:0:0:0)
2013 (5.1)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	235.5 (98:2:0:0:0)
2016 (5.3)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	247.7 (98:2:0:0:0)
2019 (4.7)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	174.3 (98:2:0:0:0)
2022 (5.8)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	228.3 (98:2:0:0:0)
2025 (5.7)	90 10	SANDSTONE, a.a. – light to dark grey to grey-green, very fine to fine, sub-angular to sub-rounded, moderate sorted, feldspathic, volcano-lithic, calcareous, dispersive clay matrix, friable, poor porosity. CLAYSTONE, a.a.	219.7 (98:2:0:0:0)
2028 (5.7)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	244.3 (98:2:0:0:0)
2031 (5.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	221.7 (98:2:0:0:0)
2034 (5.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	117.5 (98:2:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2037 (6.0)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	90.8 (98:2:0:0:0)
2040 (6.8)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	82.2 (98:2:0:0:0)
2043 (7.9)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	100.3 (98:2:0:0:0)
2046 (7.0)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a. – silty in part.	62.2 (98:2:0:0:0)
2049 (5.4)	80 20	SANDSTONE, a.a. CLAYSTONE, moderate to dark brown, grey to grey-green, soft to firm.	86.8 (98:2:0:0:0)
2052 (5.5)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	118.0 (98:2:0:0:0)
2055 (6.1)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	83.0 (98:2:0:0:0)
2058 (5.2)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	97.0 (98:2:0:0:0)
2061 (5.6)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	110.5 (98:2:0:0:0)
2064 (5.4)	100 Tr	SANDSTONE, grey to grey-green, very fine to fine, occasionally medium, sub-angular, moderate sorted, lithic, feldspathic, calcite grains, dispersive clay matrix, friable, very poor porosity. CLAYSTONE, a.a.	77.7 (98:2:0:0:0)
2067 (4.8)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. – tuffaceous in part.	113.7 (97:3:0:0:0)
2070 (5.8)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	46.3 (97:3:0:0:0)
2073 (5.4)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	55.2 (98:2:0:0:0)
2076 (4.6)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	10.0 (99:1:0:0:0)
2079 (4.4)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	58.2 (98:2:0:0:0)
2082 (4.6)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	23.5 (98:2:0:0:0)
2085 (7.0)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	26.8 (98:2:0:0:0)
2088 (6.6)	70 30	SANDSTONE, a.a. CLAYSTONE, white to pale grey, bluish grey, firm, silty and tuffaceous in part.	26.8 (98:2:0:0:0)
2091 (4.1)	100 Tr	SANDSTONE, a.a. – sub-angular to sub-rounded, poor porosity. CLAYSTONE, a.a.	14.5 (99:1:0:0:0)
2094 (5.8)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	21.2 (98:2:0:0:0)
2097 (5.4)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	24.2 (98:2:0:0:0)
2100 (5.8)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	30.8 (98:2:0:0:0)
2103 (5.1)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	30.8 (97:3:0:0:0)
2106 (5.9)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	37.5 (98:2:0:0:0)
2109 (5.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, grey-green, dark grey-brown to black, silty and tuffaceous.	18.8 (98:2:0:0:0)
2112 (6.3)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	9.5 (99:1:0:0:0)
2115 (6.2)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	45.8 (98:2:0:0:0)
2118 (6.9)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	9.3 (98:2:0:0:0)
2121 (5.2)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	16.0 (98:2:0:0:0)
2124 (5.7)	100 Tr	SANDSTONE, a.a. – pale grey, grey-green, grey-black, very fine to fine, lithic, feldspathic, calcareous in part, dispersive clay matrix, friable, poor porosity. CLAYSTONE, a.a.	26.2 (97:3:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2127 (6.7)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	23.7 (97:3:0:0:0)
2130 (6.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	33.8 (98:2:0:0:0)
2133 (7.6)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	27.3 (98:2:0:0:0)
2136 (6.5)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	10.7 (98:2:0:0:0)
2139 (6.3)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	22.8 (97:3:0:0:0)
2142 (7.6)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	17.3 (98:2:0:0:0)
2145 (9.4)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	70.3 (96:3:1:0:0)
2148 (7.4)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	61.5 (98:2:0:0:0)
2151 (7.1)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	123.8 (95:4:1:0:0)
2154 (5.6)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	101.8 (95:4:1:0:0)
2157 (4.8)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	30.7 (98:2:0:0:0)
2160 (7.0)	80 20	SANDSTONE, light to dark grey, grey-green, very fine to fine, sub-angular to sub-rounded, moderate to well sorted quartz, feldspar and volcano-lithic grains, dispersive clay matrix, friable, poor porosity. CLAYSTONE, grey to grey-green, silty, moderate to dark brown, carbonaceous.	89.5 (98:2:0:0:0)
2163 (6.7)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	28.3 (98:2:0:0:0)
2166 (8.8)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	29.7 (98:2:0:0:0)
2169 (11.1)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	19.8 (96:3:1:0:0)
2172 (9.9)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	14.2 (95:4:1:0:0)
2175 (10.5)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	8.8 (96:3:1:0:0)
2178 (7.1)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	5.0 (97:3:0:0:0)
2181 (5.2)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	9.5 (98:2:0:0:0)
2184 (5.5)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	12.0 (97:3:0:0:0)
2187 (7.9)	80 20	SANDSTONE, white, light to dark grey, grey-green, very fine to fine, some medium, sub-angular to sub-rounded, moderate sorted quartz and volcano-lithic, trace pyrite and carbonaceous material, minor calcite, dispersive clay matrix, friable to loose, poor inferred porosity. CLAYSTONE, a.a.	16.5 (98:2:0:0:0)
2190 (7.5)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	10.2 (98:2:0:0:0)
2193 (7.4)	90 10	SANDSTONE, a.a. – some pale green chloritic staining, trace mica flakes. CLAYSTONE, a.a.	5.2 (98:2:0:0:0)
2196 (8.5)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	8.8 (98:2:0:0:0)
2199 (7.4)	90 10	SANDSTONE, white, pale grey, very fine to fine, occasionally silty, sub-angular to sub-rounded, moderate sorted quartz, white feldspar and grey-green to grey-black volcano-lithic grains, minor calcite, trace mica and carbonaceous material, dispersive clay matrix, friable, poor inferred porosity. CLAYSTONE, pale grey to grey-green, light to dark brown, soft to firm, silty in part.	8.8 (97:3:0:0:0)
2202 (10.6)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	7.3 (97:3:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2205 (9.3)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	8.5 (98:2:0:0:0)
2208 (8.0)	90 10	SANDSTONE, a.a. – white, pale to dark grey, grey-green, very fine to fine, abundant clay matrix, very poor porosity. CLAYSTONE, a.a.	14.0 (97:3:0:0:0)
2211 (8.3)	80 20	SANDSTONE, a.a. CLAYSTONE, moderate to dark brown to grey-brown, soft to firm.	95.0 (99:1:0:0:0)
2214 (7.0)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	53.2 (96:3:1:0:0)
2217 (8.1)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	72.7 (98:2:0:0:0)
2220 (7.1)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	34.3 (98:2:0:0:0)
2223 (8.6)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	20.8 (98:2:0:0:0)
2226 (7.7)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	19.3 (98:2:0:0:0)
2229 (9.3)	100 Tr	SANDSTONE, a.a. CLAYSTONE, a.a.	18.2 (98:2:0:0:0)
2232 (15.3)	100 Tr	SANDSTONE, a.a. – very fine to fine, lithic, feldspathic. CLAYSTONE, a.a.	28.2 (96:3:1:0:0)
2235 (25.8)	80 20	SANDSTONE, a.a. CLAYSTONE, light to moderate grey-brown, soft, silty, carbonaceous.	25.3 (97:3:0:0:0)
2238 (10.2)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	5.2 (96:4:0:0:0)
2241 (10.7)	80 20	SANDSTONE, light to moderate grey, very fine to fine, grades to siltstone in part, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, argillaceous, minor mica flakes and calcite, friable to moderately hard, poor porosity. CLAYSTONE, a.a.	3.2 (95:5:0:0:0)
2244 (8.5)	50 50	SANDSTONE, a.a. – trace pyrite and carbonaceous material. CLAYSTONE, moderate grey, firm, sub-fissile to blocky, silty in part, trace carbonaceous material.	12.5 (98:2:0:0:0)
2247 (9.9)	80 20	SANDSTONE, a.a. – light to moderate grey, grey-green, very fine to medium, abundant clay matrix, poor porosity. CLAYSTONE, a.a.	14.3 (98:2:0:0:0)
2250 (8.9)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	12.0 (98:2:0:0:0)
2253 (11.9)	90 10	SANDSTONE, a.a. CLAYSTONE, a.a.	25.8 (97:3:0:0:0)
2256 (5.8)	50 50	SANDSTONE, a.a. CLAYSTONE, light to dark grey, greenish grey, moderate to dark brown, sub-fissile to blocky, silty and carbonaceous in part.	30.8 (97:3:0:0:0)
2259 (5.9)	50 50	SANDSTONE, white to moderate grey, grey-green, very fine to fine, sub-angular to sub-rounded, poor to moderate sorted, volcano-lithic, feldspar, abundant clay matrix, trace calcite, friable to moderately hard, poor porosity. CLAYSTONE, a.a.	32.8 (98:2:0:0:0)
2262 (5.9)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	26.2 (98:2:0:0:0)
2265 (5.7)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	28.8 (98:2:0:0:0)
2268 (4.4)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	39.2 (98:2:0:0:0)
2271 (3.0)	30 70	SANDSTONE, a.a. – light to dark grey-green, silty, argillaceous, lithic, feldspathic, very poor porosity. CLAYSTONE, moderate to dark grey, silty, firm, trace carbonaceous material.	137.7 (98:2:0:0:0)
2274 (3.3)	30 70	SANDSTONE, a.a. – abundant pinkish orange anhydrite? grains, very poor porosity. CLAYSTONE, a.a.	78.7 (98:2:0:0:0)

LAKES OIL N.L. TRIFON-1

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2277 (3.9)	80	SANDSTONE, white to grey, grey-green, very fine to fine, sub-angular to sub-rounded, poor to moderate sorted, volcano-lithic, common coarse pinkish orange anhydrite? grains, trace mica flakes and carbonaceous material, dispersive clay matrix, friable, poor porosity.	46.2 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	
2280 (4.0)	90	SANDSTONE, a.a.	36.8 (98:2:0:0:0)
	10	CLAYSTONE, a.a.	
2283 (3.2)	100	SANDSTONE, a.a. – very fine to medium.	48.8 (98:2:0:0:0)
2286 (4.7)	30	SANDSTONE, a.a.	73.5 (98:2:0:0:0)
	70	CLAYSTONE, a.a.	
2289 (5.2)	30	SANDSTONE, a.a.	67.0 (98:2:0:0:0)
	70	CLAYSTONE, a.a.	
2292 (23.1)	30	SANDSTONE, a.a.	55.7 (98:2:0:0:0)
	70	CLAYSTONE, a.a.	
2295 (32.4)	80	SANDSTONE, grey to grey-green, very fine to medium, sub-angular to sub-rounded, poor to moderate sorted quartz, volcano-lithic and feldspar grains, minor coarse pinkish orange anhydrite? grains, dispersive clay matrix, poor porosity.	23.0 (96:3:1:0:0)
	20	CLAYSTONE, a.a.	
2298 (26.4)	50	SANDSTONE, a.a.	28.7 (96:3:1:0:0)
	50	CLAYSTONE, a.a.	
2301 (3.1)	40	SANDSTONE, a.a. – very argillaceous, lithic, minor mica flakes, very poor porosity.	150.7 (98:2:0:0:0)
	60	CLAYSTONE, white to pale grey, pale brown, soft, dispersive.	
2304 (7.3)	60	SANDSTONE, a.a.	52.3 (98:2:0:0:0)
	40	CLAYSTONE, a.a.	
2307 (3.7)	40	SANDSTONE, a.a.	95.2 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2310 (5.7)	70	SANDSTONE, a.a.	71.2 (98:2:0:0:0)
	30	CLAYSTONE, a.a.	
2313 (3.3)	70	SANDSTONE, a.a.	106.3 (98:2:0:0:0)
	30	CLAYSTONE, a.a.	
2316 (4.4)	30	SANDSTONE, a.a.	71.3 (98:2:0:0:0)
	70	CLAYSTONE, pale brown to grey-brown, soft, dispersive, occasionally silty and carbonaceous.	
2319 (4.4)	30	SANDSTONE, white to pale grey, grey-green, very fine to fine, sub-angular to sub-rounded, poor to moderate sorted quartz and volcano-lithic grains, feldspathic, trace mica flakes and carbonaceous material, abundant clay matrix, very poor porosity.	85.2 (97:3:0:0:0)
	70	CLAYSTONE, a.a.	
2322 (4.2)	40	SANDSTONE, a.a.	91.5 (97:3:0:0:0)
	60	CLAYSTONE, a.a.	
2325 (3.1)	60	SANDSTONE, a.a.	159.7 (98:2:0:0:0)
	40	CLAYSTONE, a.a.	
2328 (3.3)	40	SANDSTONE, a.a.	146.0 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2331 (4.8)	40	SANDSTONE, a.a.	119.0 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2334 (6.7)	50	SANDSTONE, a.a.	57.3 (97:3:0:0:0)
	50	CLAYSTONE, a.a.	
2337 (7.5)	50	SANDSTONE, a.a.	81.5 (97:3:0:0:0)
	50	CLAYSTONE, a.a. – minor very dark brown, carbonaceous.	
2340 (5.7)	50	SANDSTONE, a.a.	62.2 (98:2:0:0:0)
	50	CLAYSTONE, a.a.	
2343 (6.0)	50	SANDSTONE, a.a.	130.3 (97:3:0:0:0)
	50	CLAYSTONE, a.a.	
2346 (8.3)	50	SANDSTONE, a.a.	48.3 (96:3:1:0:0)
	50	CLAYSTONE, a.a.	
2349 (7.6)	30	SANDSTONE, a.a.	29.8 (96:3:1:0:0)
	70	CLAYSTONE, a.a.	
2352 (8.9)	50	SANDSTONE, a.a.	25.8 (98:2:0:0:0)
	50	CLAYSTONE, a.a.	

Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2355 (9.2)	60	SANDSTONE, white to grey, grey-green, very fine to fine, occasionally medium, sub-angular to sub-rounded, poor to moderate sorted, volcano-lithic, feldspathic, trace carbonaceous material and mica flakes, minor calcite, very argillaceous, friable, poor porosity.	26.3 (98:2:0:0:0)
	40	CLAYSTONE, light to moderate grey, grey-brown, brown, soft to firm, silty and carbonaceous in part.	
2358 (5.2)	40	SANDSTONE, a.a.	20.0 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2361 (6.1)	60	SANDSTONE, a.a.	43.2 (98:2:0:0:0)
	40	CLAYSTONE, a.a.	
2364 (7.7)	80	SANDSTONE, a.a.	26.7 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	
2367 (6.8)	60	SANDSTONE, a.a.	15.5 (98:2:0:0:0)
	40	CLAYSTONE, a.a.	
2370 (7.2)	90	SANDSTONE, a.a. – very fine to medium.	8.7 (98:2:0:0:0)
	10	CLAYSTONE, a.a.	
2373 (9.8)	80	SANDSTONE, a.a.	7.8 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	
2376 (8.7)	40	SANDSTONE, a.a.	12.8 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2379 (10.8)	40	SANDSTONE, a.a.	9.7 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2382 (11.7)	40	SANDSTONE, a.a.	10.8 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2385 (9.0)	50	SANDSTONE, a.a.	17.7 (98:2:0:0:0)
	50	CLAYSTONE, moderate to dark grey, soft to firm, silty in part.	
2388 (13.8)	20	SANDSTONE, white to pale grey, very fine, very argillaceous, lithic, feldspathic, friable to moderately hard, poor porosity.	6.5 (98:2:0:0:0)
	80	CLAYSTONE, white to moderate grey, light to moderate brown, soft to firm, silty, dispersive in part.	
2391 (8.1)	30	SANDSTONE, a.a.	9.2 (98:2:0:0:0)
	70	CLAYSTONE, a.a.	
2394 (7.2)	90	SANDSTONE, white to grey, grey-green, fine to medium, sub-angular to sub-rounded, moderate sorted quartz, volcano-lithic and feldspar grains, dispersive clay matrix, poor porosity.	8.3 (98:2:0:0:0)
	10	CLAYSTONE, a.a.	
2397 (7.3)	90	SANDSTONE, a.a.	9.7 (98:2:0:0:0)
	10	CLAYSTONE, a.a.	
2400 (7.4)	80	SANDSTONE, a.a.	11.5 (98:2:0:0:0)
	20	CLAYSTONE, a.a.	
2403 (6.6)	70	SANDSTONE, a.a.	25.3 (98:2:0:0:0)
	30	CLAYSTONE, a.a. – moderate to dark grey.	
2406 (7.6)	70	SANDSTONE, a.a.	13.0 (98:2:0:0:0)
	30	CLAYSTONE, moderate to dark grey, dark brown, firm, silty in part.	
2409 (10.0)	30	SANDSTONE, a.a.	8.0 (98:2:0:0:0)
	70	CLAYSTONE, a.a. – grey-green.	
2412 (7.4)	60	SANDSTONE, a.a. – very fine to fine.	44.5 (98:2:0:0:0)
	40	CLAYSTONE, a.a.	
2415 (4.6)	40	SANDSTONE, a.a.	46.0 (98:2:0:0:0)
	60	CLAYSTONE, a.a.	
2418 (8.8)	30	SANDSTONE, a.a.	44.7 (98:2:0:0:0)
	70	CLAYSTONE, moderate to dark grey, grey-brown, soft to firm.	
2421 (7.5)	30	SANDSTONE, a.a. – grades to siltstone in part.	76.8 (98:2:0:0:0)
	70	CLAYSTONE, a.a. – silty in part.	
2424 (8.3)	20	SANDSTONE, a.a.	36.0 (98:2:0:0:0)
	80	CLAYSTONE, a.a.	
2427 (9.1)	70	SANDSTONE, a.a. – very fine to medium.	58.5 (98:2:0:0:0)
	30	CLAYSTONE, a.a.	
2430 (9.6)	30	SANDSTONE, a.a.	58.5 (98:2:0:0:0)
	70	CLAYSTONE, a.a.	
2433 (12.3)	70	SANDSTONE, light to moderate grey, very fine to medium, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, calcareous in part, dispersive clay matrix, friable, poor porosity.	75.8 (98:2:0:0:0)
	30	CLAYSTONE, a.a.	

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2436 (15.0)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	72.7 (97:3:0:0:0)
2439 (17.2)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	36.8 (98:2:0:0:0)
2442 (16.3)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	46.5 (98:2:0:0:0)
2445 (14.3)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	53.0 (96:3:1:0:0)
2448 (15.2)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	63.0 (96:3:1:0:0)
2451 (13.4)	70 30	SANDSTONE, a.a. CLAYSTONE, white to pale grey, soft, dispersive, moderate to dark grey, grey-green, moderate to dark brown, soft to firm, silty, carbonaceous in part.	145.2 (97:3:0:0:0)
2454 (10.9)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	85.8 (97:3:0:0:0)
2457 (10.3)	50 50	SANDSTONE, a.a. – also minor white to grey-brown, very fine, carbonaceous laminae, silty, very argillaceous, very poor porosity. CLAYSTONE, a.a.	96.2 (96:3:1:0:0)
2460 (11.4)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	70.5 (98:2:0:0:0)
2463 (11.3)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	75.7 (97:3:0:0:0)
2466 (10.1)	60 40	SANDSTONE, a.a. CLAYSTONE, a.a.	91.3 (96:3:1:0:0)
2469 (12.1)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	69.5 (96:3:1:0:0)
2472 (15.5)	20 80 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, very dark brown to black, sub-vitreous to vitreous lustre, lignitic and shaley in part.	155.8 (97:3:0:0:0)
2475 (10.7)	20 70 10	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	85.7 (96:3:1:0:0)
2478 (12.0)	20 80	SANDSTONE, a.a. CLAYSTONE, a.a. – moderate grey, soft, dispersive.	58.2 (96:3:1:0:0)
2481 (12.8)	20 80	SANDSTONE, white to greenish grey, very fine to fine, occasionally medium and rare coarse, sub-angular to sub-rounded, moderate sorted, lithic, feldspathic, minor calcite, rare pyrite nodules and cement, abundant clay matrix, friable, very poor porosity. CLAYSTONE, a.a.	51.2 (98:2:0:0:0)
2484 (10.4)	70 30	SANDSTONE, a.a. – light to moderate grey, very fine to fine. CLAYSTONE, a.a.	81.8 (98:2:0:0:0)
2487 (12.5)	50 50	SANDSTONE, a.a. CLAYSTONE, light to moderate grey to grey-green, grey-brown, brown, soft to firm, sub-fissile to blocky, carbonaceous in part.	205.3 (97:3:0:0:0)
2490 (11.4)	30 70	SANDSTONE, a.a. CLAYSTONE, a.a.	216.8 (97:3:0:0:0)
2493 (10.9)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	180.3 (97:3:0:0:0)
2496 (11.9)	10 90	SANDSTONE, a.a. – pale to moderate grey, very fine, lithic, feldspathic, argillaceous, poor porosity. CLAYSTONE, dark brown, dark grey to grey-brown, firm, sub-fissile to blocky, carbonaceous in part, rare pyrite.	123.8 (97:3:0:0:0)
2499 (14.1)	50 50	SANDSTONE, a.a. – also grey-green, chloritic. CLAYSTONE, a.a.	95.0 (98:2:0:0:0)
2502 (11.3)	80 20	SANDSTONE, a.a. CLAYSTONE, a.a.	89.3 (97:3:0:0:0)
2505 (11.6)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	107.7 (96:3:1:0:0)
2508 (11.9)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	129.3 (97:3:0:0:0)
2511 (10.4)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	171.2 (97:3:0:0:0)

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Depth	Percent	Lithological Description	Gas (units) (Breakdown %)
2514 (11.5)	40 60	SANDSTONE, a.a. CLAYSTONE, moderate to dark grey, occasionally grey-green and grey-brown, firm, minor carbonaceous specks, occasionally silty.	152.7 (97:3:0:0:0)
2517 (12.6)	50 50	SANDSTONE, green to grey-green, grey, very fine to fine, sub-angular to sub-rounded, moderate sorted volcano-lithic and feldspar grains, abundant clay matrix, green chloritic staining in part, friable, poor porosity. CLAYSTONE, a.a.	126.7 (97:3:0:0:0)
2520 (11.8)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a. – occasional carbonaceous / coal fragments.	137.2 (96:3:1:0:0)
2523 (11.9)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	175.7 (97:3:0:0:0)
2526 (11.4)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	161.8 (98:2:0:0:0)
2529 (13.9)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	208.3 (97:3:0:0:0)
2532 (13.2)	80 20	SANDSTONE, white to pale green, grey-green, very fine to fine, sub-angular to sub-rounded, moderate sorted, volcano-lithic, feldspathic, abundant argillaceous matrix, green chloritic staining in part, friable, poor porosity. CLAYSTONE, a.a.	193.0 (97:3:0:0:0)
2535 (14.1)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a.	123.5 (97:3:0:0:0)
2538 (13.2)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	107.8 (97:3:0:0:0)
2541 (13.9)	70 30	SANDSTONE, a.a. CLAYSTONE, a.a.	77.2 (96:3:1:0:0)
2544 (10.3)	80 20	SANDSTONE, a.a. CLAYSTONE, moderate grey to grey-green, grey-brown, moderate to dark brown, soft to firm, occasional carbonaceous and silty in part.	114.2 (96:3:1:0:0)
2547 (11.3)	50 50	SANDSTONE, a.a. CLAYSTONE, a.a.	94.2 (96:3:1:0:0)
2550 (13.8)	40 60 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, very dark brown to black, sub-vitreous lustre, grades to shale in part.	99.5 (96:3:1:0:0)
2553 (16.1)	40 60	SANDSTONE, a.a. CLAYSTONE, a.a. – silty in part.	122.7 (96:3:1:0:0)
2556 (18.3)	60 40	SANDSTONE, a.a. – very calcareous, poor porosity. CLAYSTONE, a.a.	106.2 (96:3:1:0:0)
2559 (11.3)	30 70 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	117.3 (98:2:0:0:0)
2562 (8.5)	40 60 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	91.3 (97:3:0:0:0)
2565 (10.7)	50 50 Tr	SANDSTONE, a.a. CLAYSTONE, a.a. COAL, a.a.	69.3 (97:3:0:0:0)
2568 (14.4)	60 40	SANDSTONE, white to pale grey, grey-green, very fine to fine, sub-angular to sub-rounded, moderate sorted, lithic and feldspathic, calcareous in part, clay matrix, friable, poor porosity. CLAYSTONE, a.a.	128.0 (96:3:1:0:0)
		TD 2570 metres - 05.30 hours 27 December 2000	

APPENDIX 2

SIDEWALL CORE DESCRIPTIONS

LAKES OIL N.L. TRIFON-1 SIDE WALL CORE DESCRIPTION

No.	Depth metres	Rec mm.	Lithology
1	2130.0	40	CLAYSTONE, very dark grey-green, soft to firm.
2	2117.0	30	CLAYSTONE, very dark grey-green, soft to firm.
3	2110.0	30	CLAYSTONE, very dark grey-green, soft to firm, sandy in part.
4	2043.0	25	CLAYSTONE, very dark grey-green, soft to firm.
5	2022.0	10	SANDSTONE, grey to grey-green, very fine to medium, sub-angular, moderate to well sorted, volcano-lithic, slightly calcareous, abundant white clay matrix, friable, very poor porosity.
6	1990.0	25	CLAYSTONE, very dark grey-green, soft to firm.
7	1922.0	15	SANDSTONE, grey to grey-green, very fine to fine, sub-angular, moderate to well sorted, volcano-lithic, slightly calcareous, abundant white clay matrix, friable, very poor porosity.
8	1870.0	15	CLAYSTONE, very dark grey-green, soft to firm.
9	1840.0	-	NO RECOVERY
10	1820.0	15	CLAYSTONE, very dark grey-green, soft to firm.
11	1800.0	20	CLAYSTONE, very dark grey-green, soft to firm, sandy in part.
12	1778.0	50	CLAYSTONE, very dark grey-green to brown-black, firm.
13	1747.5	40	SILTSTONE / CLAYSTONE, dark grey and dark brown, laminated, carbonaceous in part.
14	1727.5	15	SANDSTONE, pale grey to greenish grey, very fine, abundant clay matrix, very poor porosity.
15	1677.5	20	CLAYSTONE, very dark grey-green, soft to firm.
16	1667.0	20	SANDSTONE, pale grey to greenish grey, very fine, abundant clay matrix, very poor porosity.
17	1644.0	35	CLAYSTONE, very dark grey-green, soft to firm.
18	1608.0	10	CLAYSTONE, very dark grey-green, soft to firm.
19	1592.0	45	SANDSTONE, pale grey to greenish grey, very fine, abundant clay matrix, very poor porosity.
20	1566.0	30	CLAYSTONE, grey to grey-green, silty.
21	1535.0	20	SILTSTONE, white to pale grey, very argillaceous, grades to very fine sandstone in part.
22	1477.0	35	CLAYSTONE, very dark grey-green, soft to firm.
23	1457.0	30	CLAYSTONE, light to moderate grey, soft to firm.
24	1425.0	15	CLAYSTONE, light to moderate grey, soft to firm.
25	1400.0	20	SANDSTONE, light grey to grey-green, very fine, moderate to abundant clay matrix, poor porosity.
26	1362.0	20	CLAYSTONE, light to moderate grey, soft to firm.
27	1315.0	35	CLAYSTONE, light to moderate grey to grey-green, soft to firm.
28	1292.0	35	CLAYSTONE, light to moderate grey to grey-green, soft to firm.
29	1255.0	35	SANDSTONE, pale grey to grey-green, very fine to fine, very argillaceous, lithic, feldspathic, very poor porosity.
30	1241.0	50	CLAYSTONE, light to moderate grey to grey-green, soft to firm.

APPENDIX 3

WIRELINE LOG ANALYSIS

TRIFON-1

LOG ANALYSIS

D.A. Short
February 2001

LAKES OIL N.L. - TRIFON-1 Log Analysis

A basic log analysis has been performed on Trifon-1 over the top Latrobe Group and two selected intervals in the Strzelecki Formation.

Three Schlumberger logging runs were made :

Run / Depth	Logs
1 @ 1233m.	DLL / BCS / RHOZ / GR / SP / Cal
2 @ 2152m.	DLL / BCS / RHOZ / TNPH / GR / SP / Cal
3 @ 2570m.	DLL / BCS / GR / SP / Cal

Four drill stem tests were conducted and the results are summarized in figures 1a & 1b.

Temperatures recorded from drill stem tests at Trifon-1 & Gangell-1 give a temperature gradient of 29.5°C / 1000m. – figure 2.
The bottom hole temperature at 2570m. calculated as 94°C

True formation resistivity (Rt) is calculated from the DLL / MSFL combination or if no MSFL the DLL is assumed to approximate Rt.

Formation water resistivity was taken from:

1 Latrobe Group 6.99Ωm @ 42°C Hingle Plot of sand 810-830m.
2 Strzelecki Group 0.29Ωm @ 25°C Water sample from DST#3.

Filtrate resistivity calculated at 0.10Ωm at 42°C. (Figures 3a & 3b.)

Porosity was calculated from:

a) Latrobe Group Density log and adjusted for Vclay.
b) Upper Strzelecki Group Neutron-Density log and adjusted for Vclay.
c) Middle Strzelecki Group Sonic log and adjusted for Vclay.

Clay content (Vclay) was calculated from the Gamma Ray log

Water saturation was then calculated using the Indonesia Equation and the results presented both as a table and graphically at a scale of 1 to 500.

The following tables and graphical plots – figures 4a / 4b & 4c - summarize the calculated Porosity / Vclay / Water Saturation for the three zones.

Latrobe Group

Interval (metres)	Porosity	V clay	Water Saturation
704.4 - 713.5	32.5	6.1	100.0
714.5 - 715.1	30.9	35.2	100.0
720.9 - 780.6	31.6	9.9	98.8
781.7 - 802.1	31.7	9.0	98.6
802.7 - 807.6	31.9	5.3	99.4
808.3 - 835.2	30.0	7.5	98.4

Strzelecki Group - Upper

Interval (metres)	Porosity	V clay	Water Saturation
1270.9 - 1271.9	12.0	58.7	98.0
1272.4 - 1276.7	13.6	47.9	91.1
1277.7 - 1284.4	14.1	46.0	87.5
1285.0 - 1289.5	15.4	41.3	79.5
1298.9 - 1310.3	16.1	39.1	83.4
1320.1 - 1321.5	14.1	43.6	77.1
1324.5 - 1329.2	16.1	32.7	79.2
1330.8 - 1332.7	13.6	44.4	86.3
1335.5 - 1340.4	15.8	41.3	82.7
1343.3 - 1348.4	17.5	33.1	70.9
1350.7 - 1360.2	16.5	38.6	81.0
1366.1 - 1423.0	18.2	29.0	68.2
1429.1 - 1430.9	12.3	40.0	85.1

Strzelecki Group - Middle

Interval (metres)	Porosity	V clay	Water Saturation
2100.0 - 2113.0	13.2	25.0	66.0
2141.7 - 2147.5	19.8	24.2	78.2
2155.9 - 2167.0	14.4	28.1	100.0
2179.0 - 2187.1	14.4	31.7	100.0
2191.8 - 2201.0	14.2	26.1	100.0
2205.8 - 2208.4	16.5	23.1	100.0
2209.5 - 2230.1	16.4	18.2	100.0
2238.6 - 2239.8	16.6	37.5	100.0
2240.9 - 2241.7	13.0	25.1	100.0
2242.3 - 2258.6	14.1	26.6	100.0
2271.2 - 2272.3	10.4	63.1	88.9

Conclusions

The sands of the Latrobe Group had very good porosity and permeability but were, as expected, water saturated.

Good gas shows were recorded from the top Latrobe coal but no drill stem tests were attempted. The coal was produced in large "chunks" while drilling and showed what appeared to be an extensive fracture system. While this could be a reservoir for "coal seam gas" it could also provided a conduit to the underlying water filled Latrobe sands. If this were the case then any attempts to produce gas from the coal(s) would quite likely be frustrated by very high and probably sustained water production.

The Strzelecki Formation sands encountered were predominantly fine grained, lithic, very argillaceous and with poor to fair reservoir quality. This appears to be confirmed by wireline logs where although calculated porosities lie in the 12 – 18% range when tested they show a lack of good permeability as seen in DSTs 1&2 where they flowed gas at rates less than 50mcfd.

Of significance are the water flows of 900 barrels / day recorded from DSTs 3&4. The water accompanied by a small amount of gas appears to be flowing from fractures in the sands at approximately 2191 and 2209 metrers. These fractures can be identified on the sonic log and are seen at several levels in the Strzelecki Formation in Trifon-1.

Doug Short
February 2001

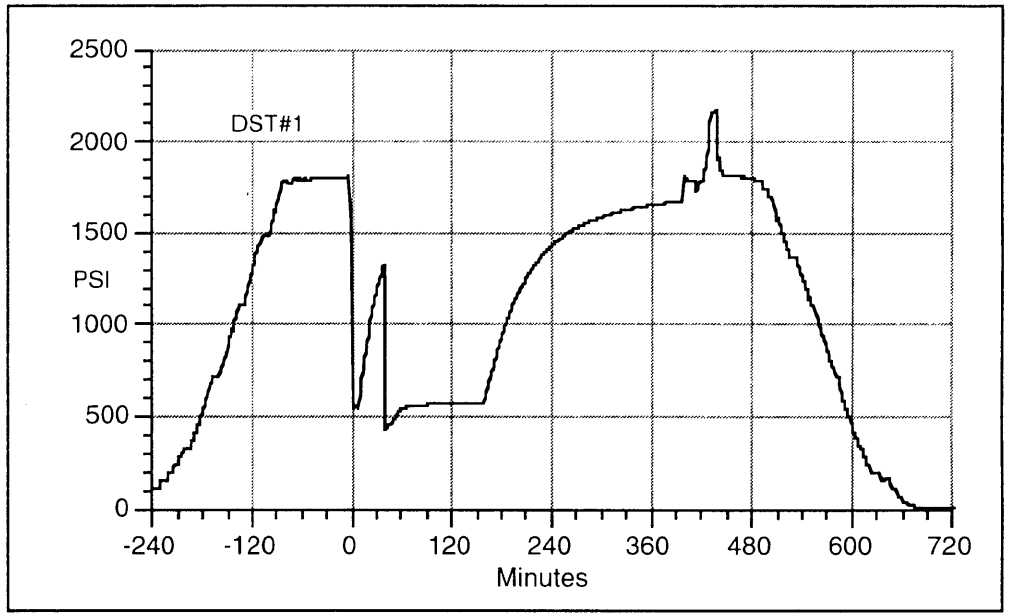
TRIFON-1 Drill Stem Tests 1 & 2.

DST#1	Strzelecki Group
Depth (driller)	1206.0-1274.0
Depth (logger)	1206.0-1274.0
Type test (open hole)	Bottom hole
Date	16 December 2000
First flow open	10
First flow shut-in	30
Second flow open	120
Second flow shut-in	240
SG Mud/Make-up/Rec	1.05/1.00/ -
Res. Mf/Make-up/Rec - 25°C	- / - / -
Cl- Mf/Make-up/Rec	31000/ - / -

EMP (Inside)	DATA (m/psi/°C)
Depth	1200
IHH	1802
1st Flow 1	536
1st Flow 2	563
1st Shut-in	1320
2nd Flow 1	427
2nd Flow 2	575
2nd Shut-in	1675
FHH	1818
Temp (°C)	51

REMARKS : Result: Opened tool for 10 minute initial flow - Lost 10.5 bbl mud past packer before seating - Close in for 30 minutes - Open for 120 minute final flow, GTS after 22 minutes, 52psi on 1/8" choke at end of flow (Q=23mcfd) - Shut in for 240 minutes.

Recovery : 18.7 bbl. (401m.) mud, including 10.5 bbl lost on opening.



DST#2	Strzelecki Group
Depth (driller)	1387.0-1414.4
Depth (logger)	1387.0-1414.4
Type test (open hole)	Inflate straddle
Date	23 December 2000
First flow open	90
First flow shut-in	180
Second flow open	
Second flow shut-in	
SG Mud/Make-up/Rec	1.13/1.00/ -
Res. Mf/Make-up/Rec - 25°C	- / - / -
Cl- Mf/Make-up/Rec	18500/ - /11500

EMP (Inside)	DATA (m/psi/°C)
Depth	1380
IHH	2204
1st Flow 1	55
1st Flow 2	290
1st Shut-in	1926
2nd Flow 1	
2nd Flow 2	
2nd Shut-in	
FHH	2202
Temp (°C)	61

REMARKS : Result: Very weak blow - No gas to surface.

Recovery : Reversed out minor gas & 196m. of slightly gas cut muddy water. Field Rw = 0.35Ω-M @ 72°F. (Sample chamber contained 3.5 litres of slightly muddy water.)

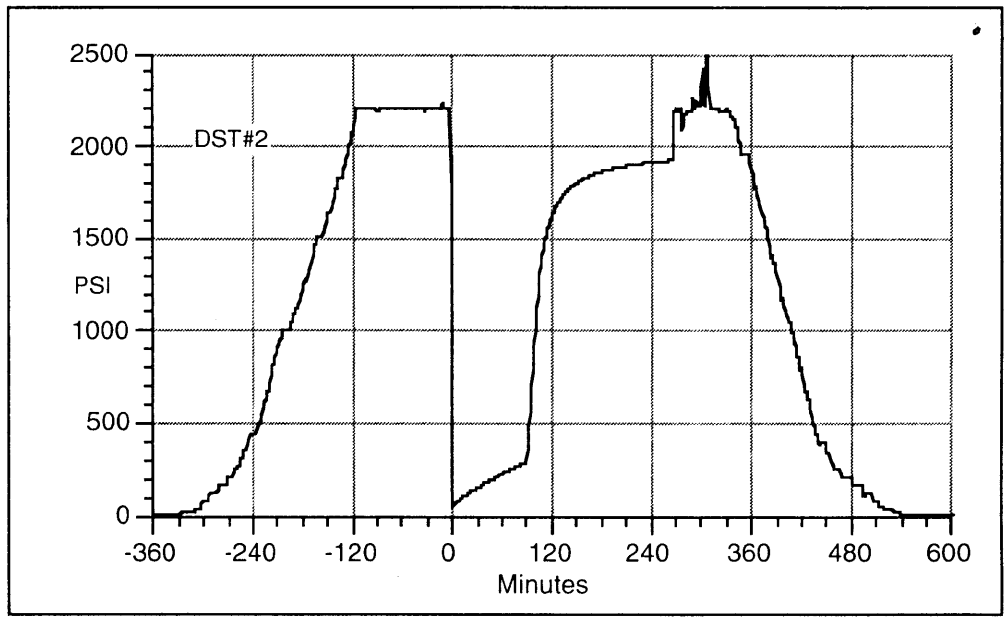


Figure 1a

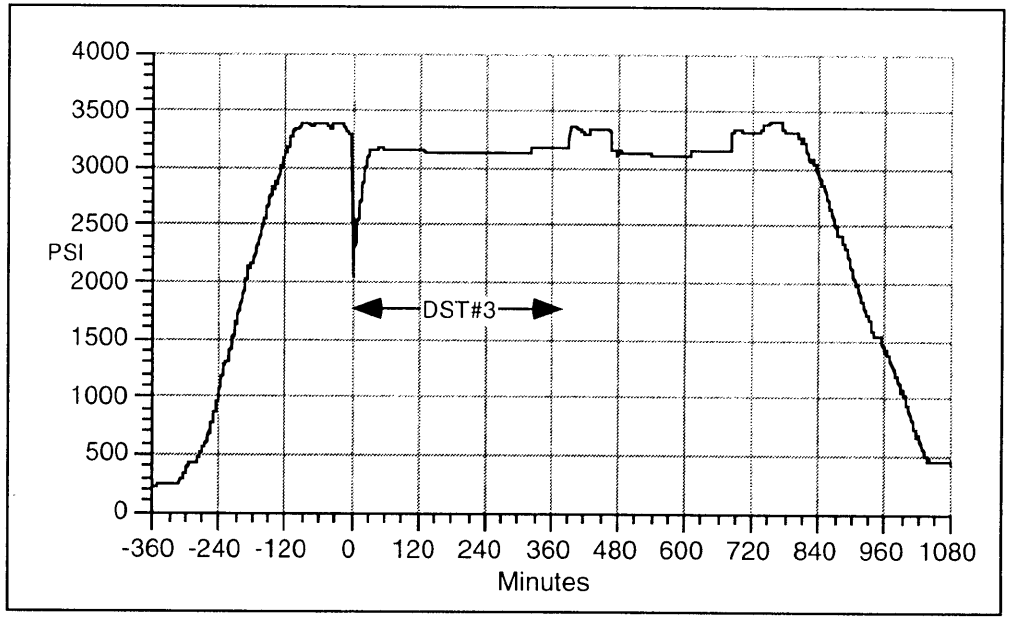
TRIFON-1 Drill Stem Tests 3 & 4.

DST#3	Strzelecki Group
Depth (driller)	2185.0-2215.0
Depth (logger)	2185.0-2215.0
Type test (open hole)	Inflate straddle
Date	28 December 2000
First flow open	321
First flow shut-in	69
Second flow open	
Second flow shut-in	
SG Mud/Make-up/Rec	1.09/1.00/1.00
Res. Mf/Make-up/Rec - 25°C	- / - /0.34
Cl- Mf/Make-up/Rec	14000/ - /12873

EMP (Inside)	DATA (m/psi/°C)
Depth	2175
IHH	3380
1st Flow 1	2054
1st Flow 2	3139
1st Shut-in	3171
2nd Flow 1	
2nd Flow 2	
2nd Shut-in	
FHH	3340
Temp (°C)	84

REMARKS : Result: After 39 minnutes Gas @ RTSTM and Water @ 900 b/d.

Recovery : Re-set 15 metres higher for DST#4.



DST#4	Strzelecki Group
Depth (driller)	2170.0-2200.0
Depth (logger)	2170.0-2200.0
Type test (open hole)	Inflate straddle
Date	28 December 2000
First flow open	131
First flow shut-in	61
Second flow open	
Second flow shut-in	
SG Mud/Make-up/Rec	1.09/1.00/1.00
Res. Mf/Make-up/Rec - 25°C	- / - /0.34
Cl- Mf/Make-up/Rec	14000/ - /12873

EMP (Inside)	DATA (m/psi/°C)
Depth	2160
IHH	3339
1st Flow 1	3101
1st Flow 2	3121
1st Shut-in	3150
2nd Flow 1	
2nd Flow 2	
2nd Shut-in	
FHH	3340
Temp (°C)	84

REMARKS : Result: Gas @ RTSTM and Water @ 900 b/d.

Recovery : Full string of salty water. (Rw = 0.34Ωm @ 25°C.)

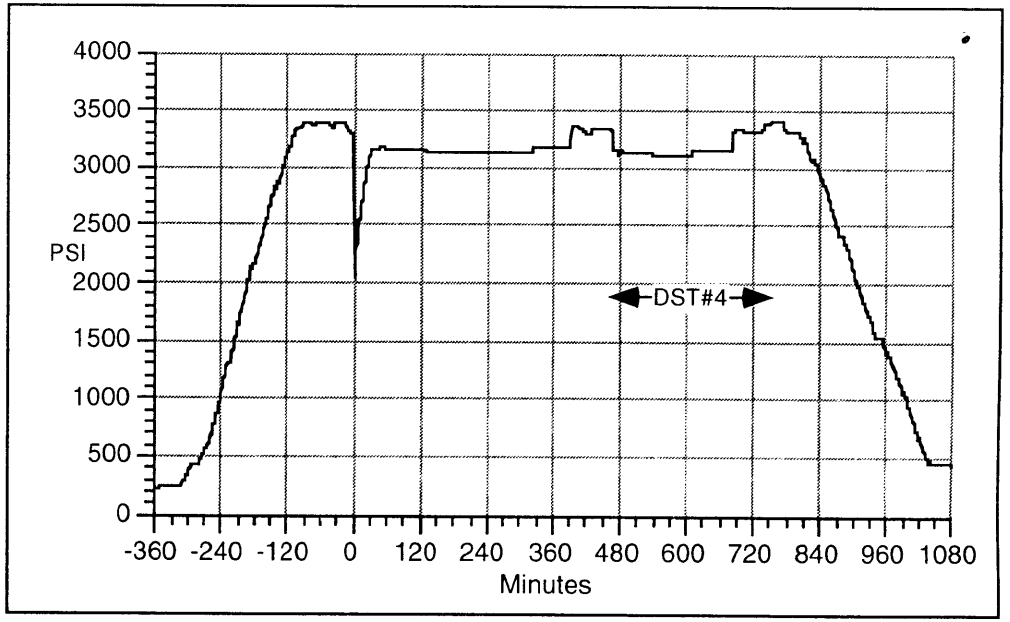


Figure 1b

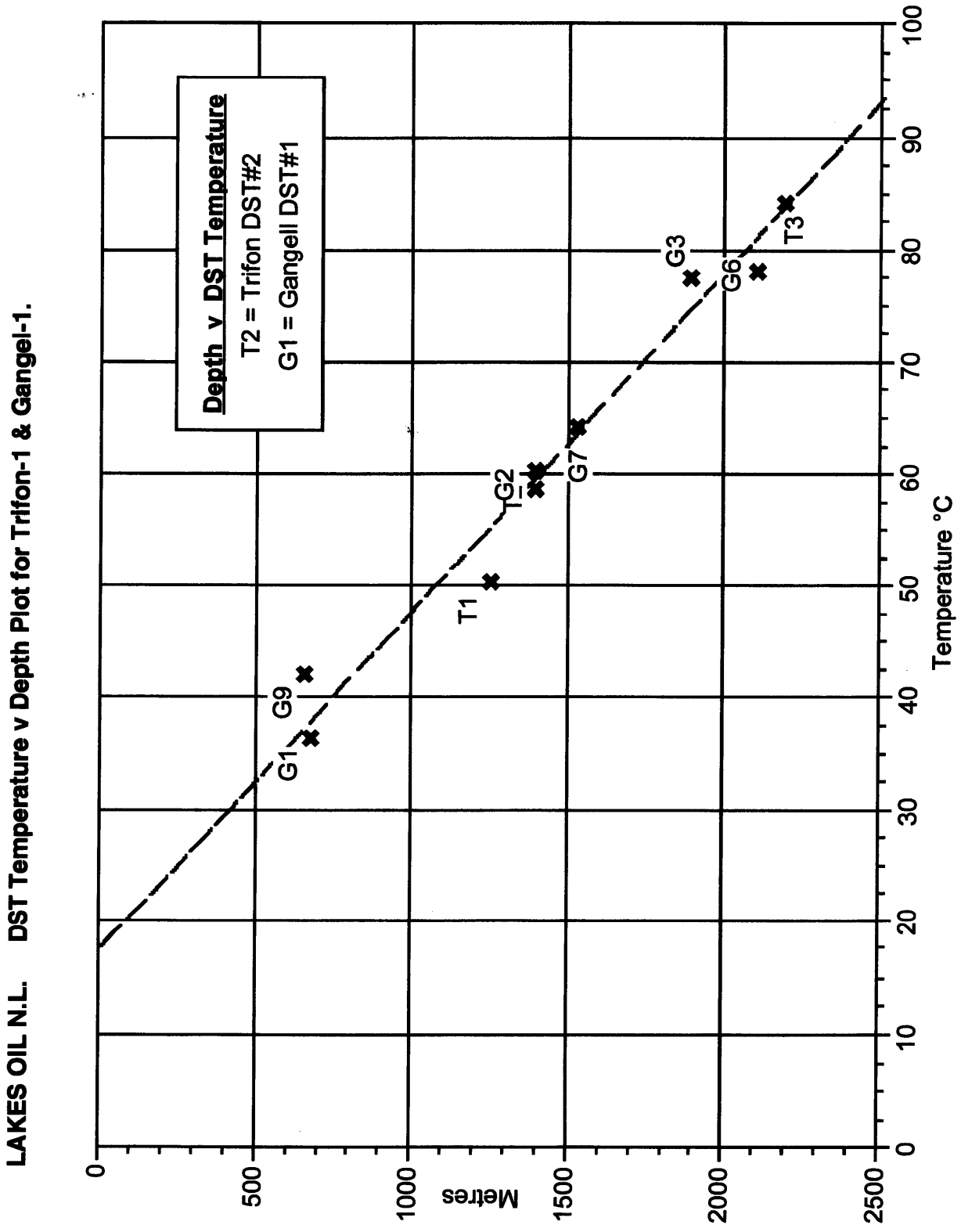
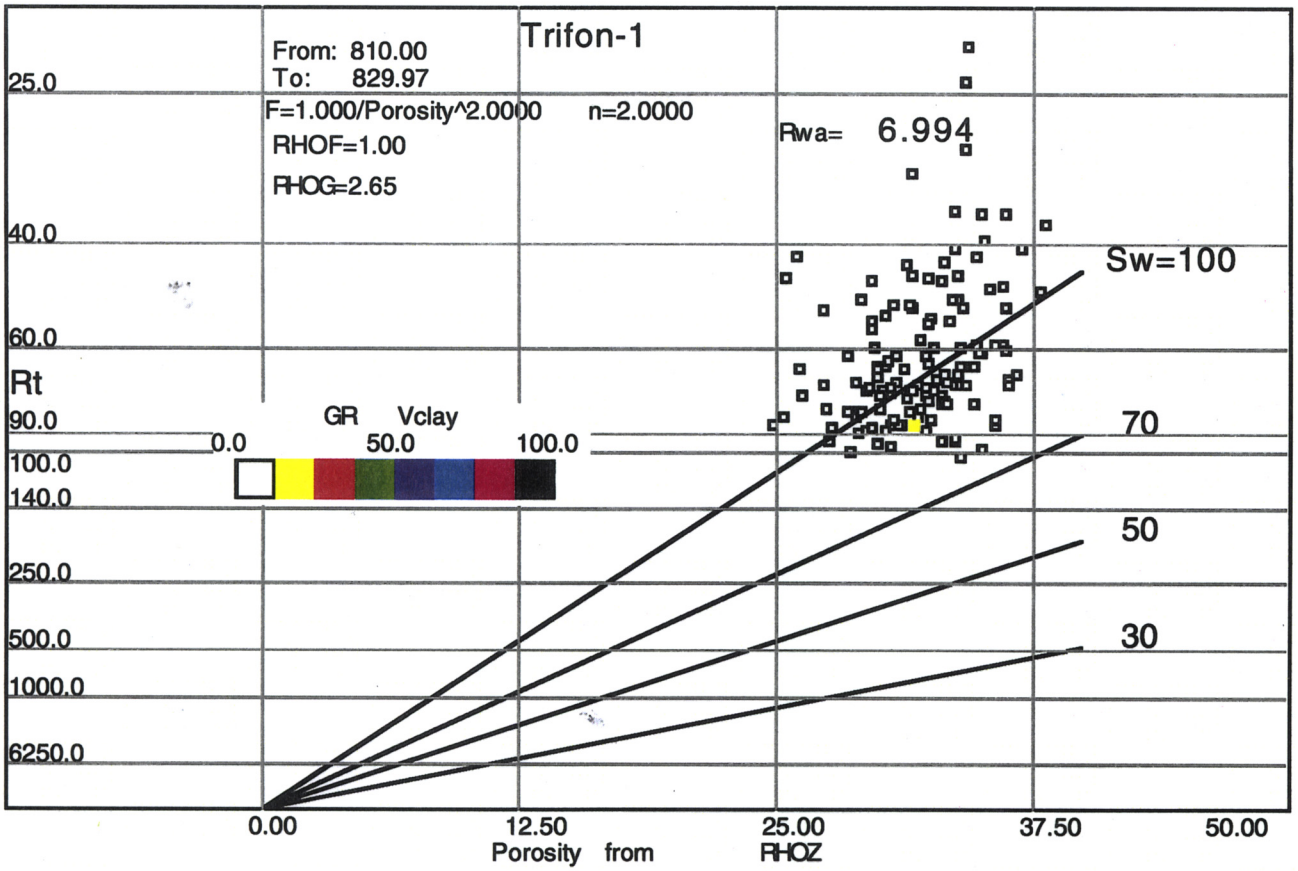
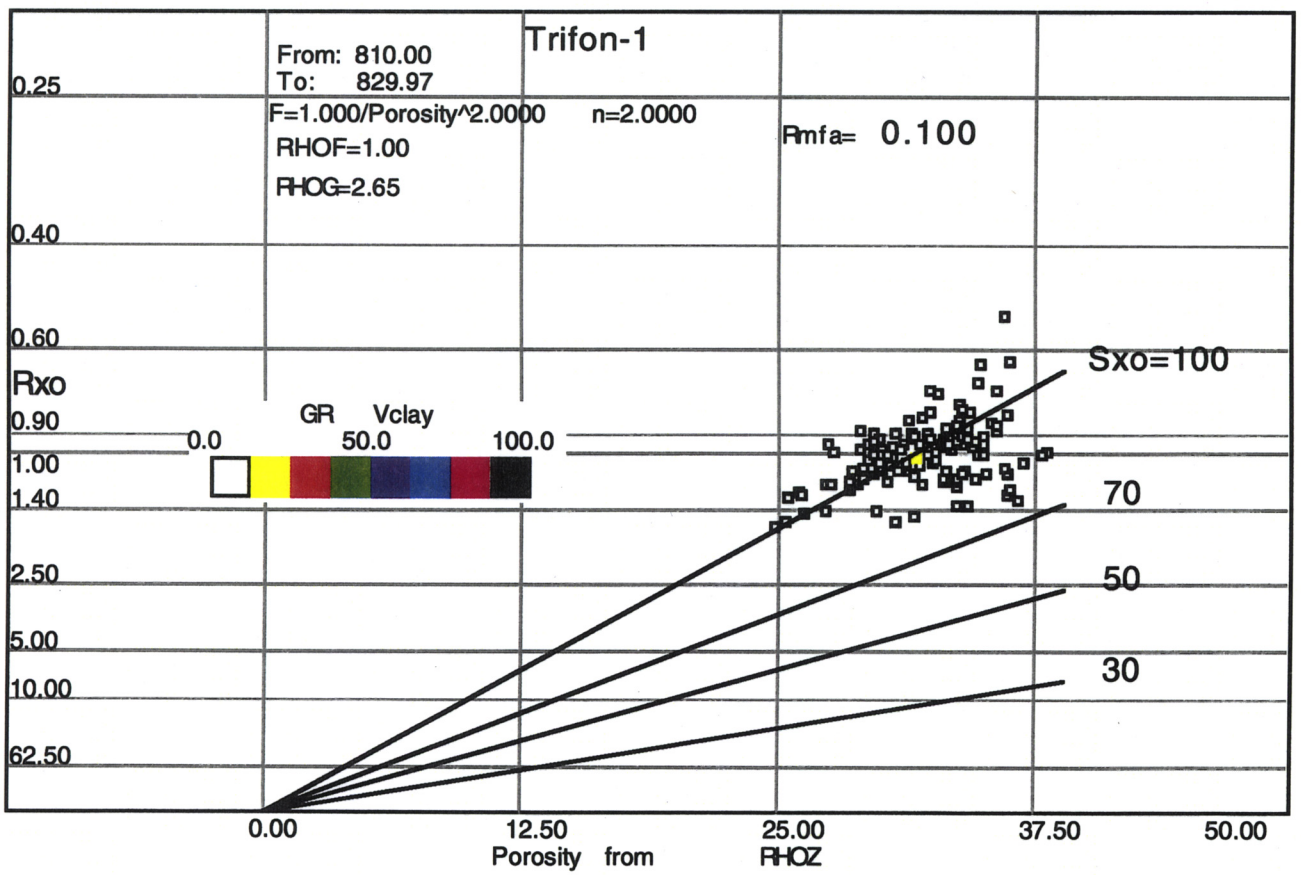


Figure 2

Hingle Plot - Apparent water resistivity - figure 3a



Hingle Plot - Apparent filtrate resistivity - figure 3b



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LAKES OIL N.L. TRIFON-1 - Top LATROBE FORMATION EVALUATION

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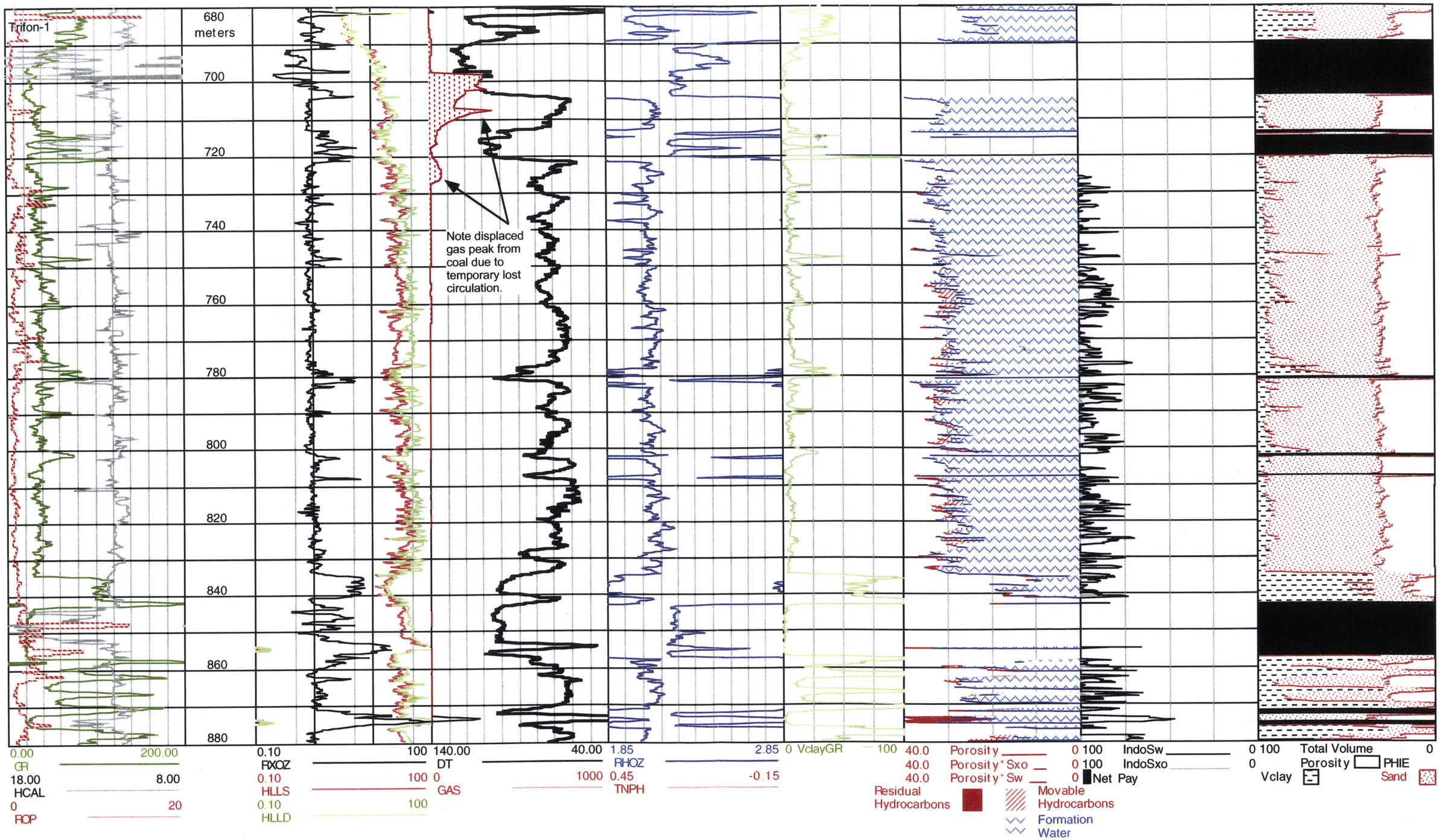

Evaluation using Indonesian Water Saturation Model

(1/RT)^0.5=[(Vclay^b)/(Rclay^0.5)+(PHIE^(m/2))/(a*Rw)^0.5]*SwInd^(n/2)

b=1-(Vclay/2)

Parameters Used.

Surface temperature = 77°F BHT (logs) = 190°F RHOF = 1.00

Measured Rmf = 0.125 at 104.0°F. Bit Size = 12.25

GRclean = 20 GRclay = 120 VclayGR = 0.5*VclayGR/(1.5-VclayGR)

Shaly Sand model for lithology. RTclay = 20 Rw = 6.994

PHIE cutoff sets Sw & Sxo to 100% below 0.0 % porosity.

Coal is detected if RHOZ<1.65 & RHOZ<>0 or if TNPH > 55.0 or if DT > 240.0.

TD logger = 2570 meters. Rt from RT curve.

Bit Size = 8.500 from 1232 to 3000

RHOG = 2.65 for Density porosity.

Rmf = 0.100 a = 1.0 : m = 2.0 : n = 2.0

Sw & Sxo set to 100% above 100% Vclay.

Density Porosity Model.

Vclay is Vclay from GR

PHIE = (1-Vclay)*PHIT.

Sxo is limited to: Sxo>=Sw.

Figure 4a

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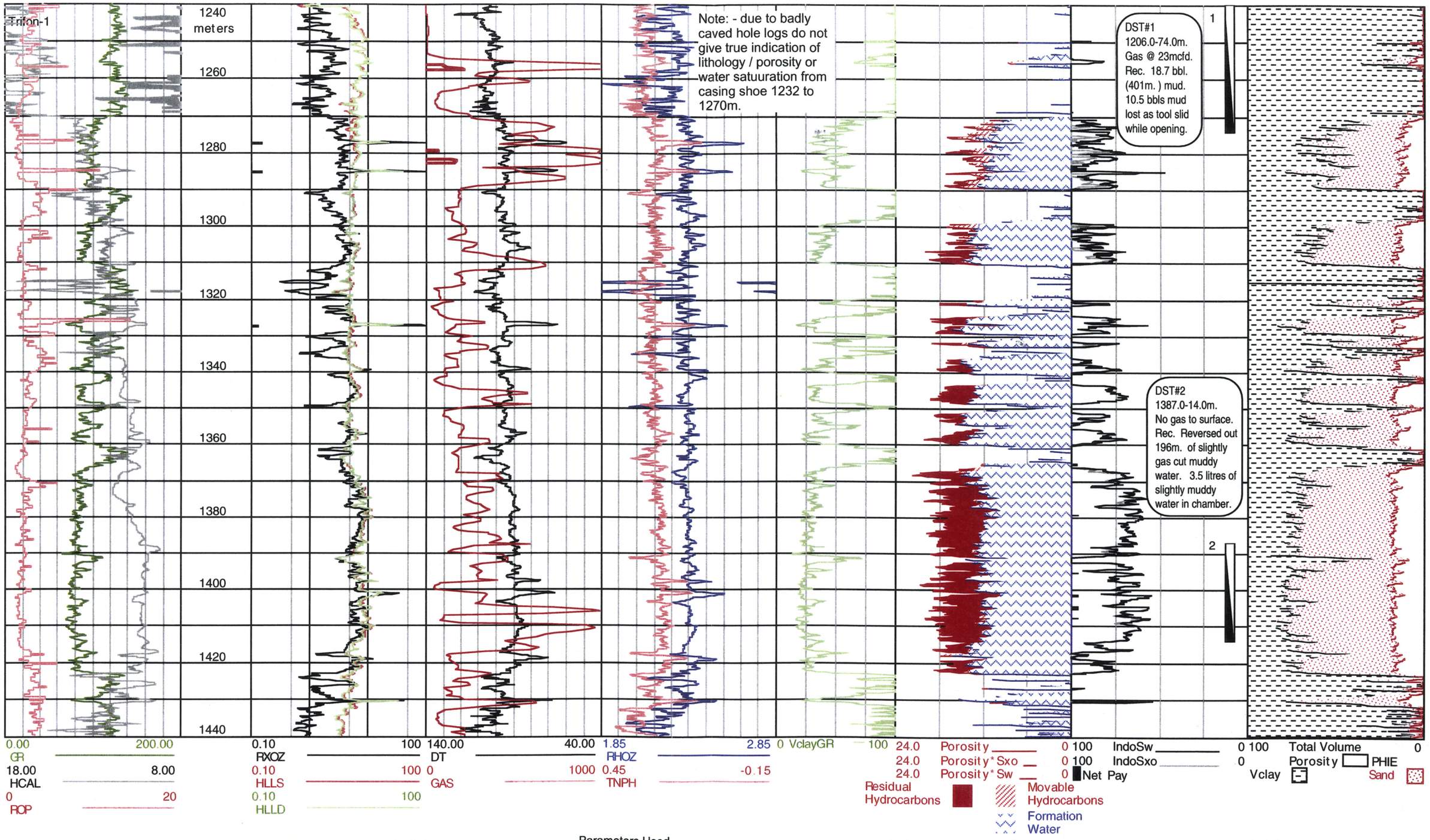
LAKES OIL N.L. TRIFON-1 - Top STRZELECKI FORMATION EVALUATION



Evaluation using Indonesian Water Saturation Model

(1/RT)^0.5=[(Vclay^b)/(Rclay^0.5)+(PHIE^(m/2))/(a*Rw)^0.5]*Swind^(n/2)

b=1-(Vclay/2)

Parameters Used.

Surface temperature = 77°F BHT (logs) = 190°F RHOF = 1.00

Measured Rmf = 0.125 at 104.0°F. Bit Size = 12.25

GRclean = 40 GRclay = 120 VclayGR = 0.5*VclayGR/(1.5-VclayGR)

Shaly Sand model for lithology. RTclay = 20 Rw = 0.15

PHIE cutoff sets Sw & Sxo to 100% below 0.0 % porosity.

Coal is detected if RHOZ<1.65 & RHOZ<>0 or if TNPH > 55.0 or if DT > 240.0.

TD logger = 2570 meters. Rt from RT curve.

Bit Size = 8.500 from 1232 to 3000

RHOG = 2.65 for Density porosity.

Rmf = 0.100 a = 1.0 : m = 2.0 : n = 2.0

Sw & Sxo set to 100% above 100% Vclay.

Density - Neutron Porosity Model.

Vclay is Vclay from GR

PHIE = (1-Vclay)*PHIT.

Sxo is limited to: Sxo>=Sw.

Figure 4b

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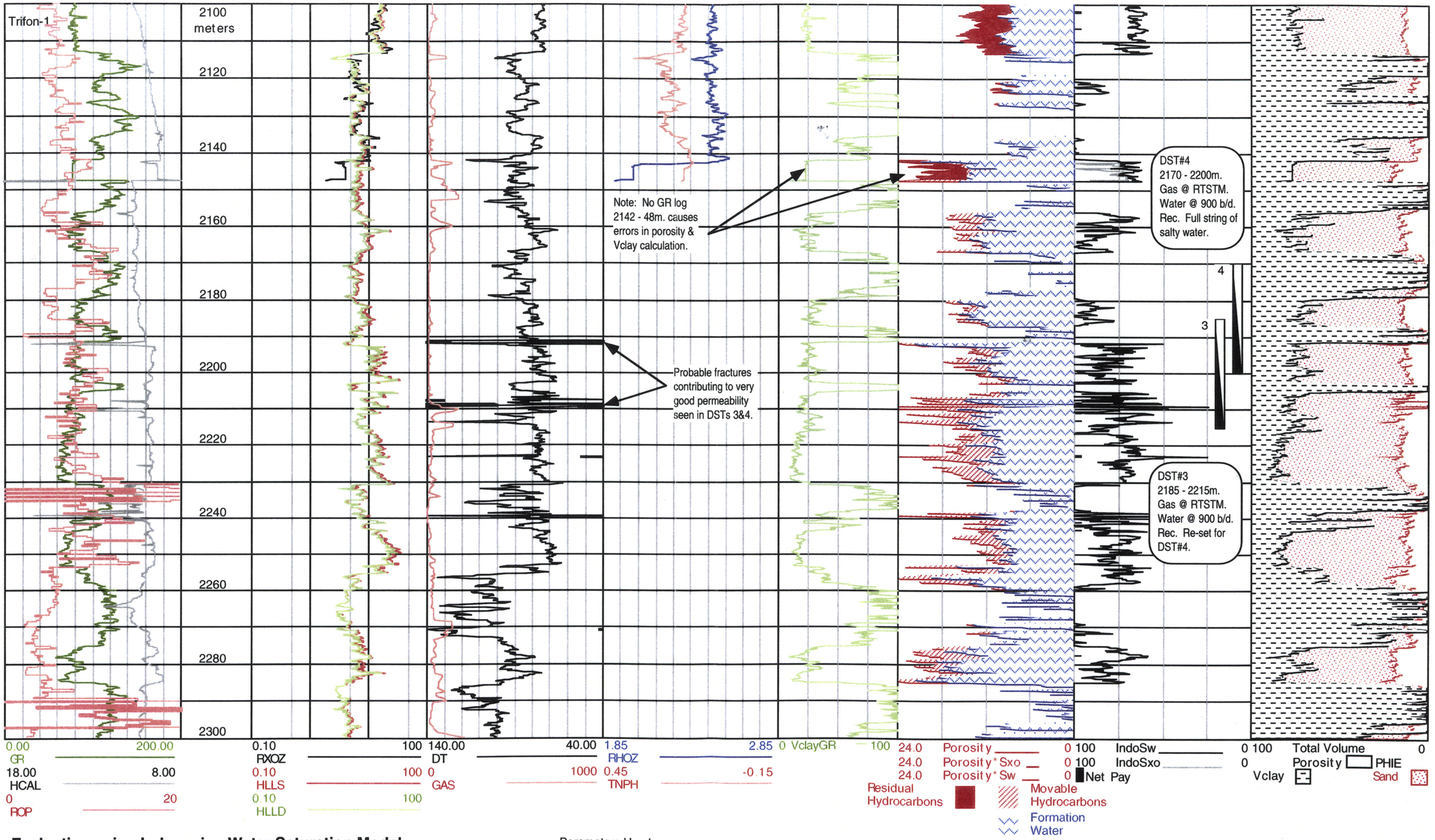
LAKES OIL N.L. TRIFON-1 - Mid STRZELECKI FORMATION EVALUATION

908901 085Y



Evaluation using Indonesian Water Saturation Model

(1/RT)^0.5=[(Vclay^b)/(Rclay^0.5)+(PHIE^(m/2))/(a*Rw)^0.5]*SwInd^(n/2)

b=1-(Vclay/2)

Parameters Used.

Surface temperature = 77°F BHT (logs) = 190°F RHOF = 1.00

Measured Rmf = 0.125 at 104.0°F. Bit Size = 12.25

GRclean = 40 GRclay = 120 VclayGR = 0.5*VclayGR/(1.5-VclayGR)

Shaly Sand model for lithology. RTclay = 20 Rw = 0.15

PHIE cutoff sets Sw & Sxo to 100% below 0.0 % porosity.

Coal is detected if RHOZ<1.65 & RHOZ<>0 or if TNPH > 55.0 or if DT > 240.0.

TD logger = 2570 meters. Rt from RT curve.

Bit Size = 8.500 from 1232 to 3000

RHOG = 2.65 for Density porosity.

Rmf = 0.100 a = 1.0 : m = 2.0 : n = 2.0

Sw & Sxo set to 100% above 100% Vclay.

Sonic porosity AFF model. Ø = 1-(Tma/T)^(1/x)

Vclay is Vclay from GR

PHIE = (1-Vclay)*PHIT.

Sxo is limited to: Sxo>=Sw.

x = 1.60 Tma = 55.5 ms/ft

Figure 4c

APPENDIX 4

BIT RECORD

TRIFON-1 BIT RECORD

Bit	Run	Size	Make	Type	IADC	Serial	Nozzles	Motor	S/Sub	Depth	Metres	Hours	ROP	SUM	Bit Grading								WOB	RPM	Pump Press
No.	No.	(mm)			Code	No.	(32nd)	(Y/N)	(S/No)	Out			(m/h)	Hrs	I	O	D	L	B	G	O	R			(psi)/(gpm)
1	1	445	Varel	L114M	1-1-4	134516	18-18-18	N	-	261	261	9.0	29.0	9.0	2	2	SS	A	2	0	NO	CTD	5-25	70-130	1250/765
2	1	311	Varel	L114	1-1-4	142700	18-18-16	N	-	793	532	21.0	25.3	30.0	2	2	SS	A	E	1	ER	RR	5-28	130-175	1300647
3	1	311	Varel	L117	1-1-7	148978	18-18-16	N	-	1233	440	34.5	12.8	64.5	4	6	SS	O	F	8	ER	PR	5-27	120-170	1300/647
4	1	216	Varel	L114	1-1-4	105438	12-12-10	N	-	1274	41	2.0	20.5	66.5	1	1	SS	A	E	0	NO	DST	20-25	120- 140	1050342
4	1RR	216	Varel	L114	1-1-4	105438	12-12-10	N	-	1338	64	5.0	12.7	71.5	2	2	SS	A	E	0	CD	PR	20-28	120-140	1100/342
5	1	216	Varel	ETD417	4-1-7	92403	12-12-10	N	-	2152	834	72.0	11.6	143.5	3	3	BT	O	E	1	ER	LOG	25-28	120-120	1550/342
6	1	216	Varel	ETD14MPS	4-3-7	152664	12-12-10	N	-	2570	419	76.0	5.5	219.5	4	6	BT	M	F	5	SD	PP	20-35	80-125	1500/342

APPENDIX 5

DRILLING FLUID SUMMARY

by

RMN DRILLING FLUIDS PTY. LTD.

RMN
Drilling Fluids

DRILLING FLUID SUMMARY

FOR : LAKES OIL NL

WELL : TRIFON # 1

GIPPSLAND BASIN

PEP 137

VICTORIA

Prepared by : Andre Skujins

Date : January 2001

RMN
Drilling Fluids

CONTENTS

Operator	:	**Lakes Oil NL**
Well	:	**Trifon # 1**
Rig	:	**ODE # 30**
Spud	:	**5th December 2000**

RMN Drilling Fluids

1. SUMMARY OF OPERATIONS

Trifon # 1 was spudded on the 5th December 2000 utilising ODE # 30 and reached a total depth of 2570 m on the 27th December 2000. The rig was released on the 30th December 2000.

The rig water supply was from a water well drilled on site. The water had the following properties :

Chlorides	:	700 mg/l
Hardness	:	120 mg/l
Pf/Mf	:	0/0.1

HOLE SIZE	:	**17½" SURFACE HOLE**
MUD TYPE	:	**GEL SPUD MUD**
INTERVAL	:	**0 - 261 m**
CASING	:	**13-3/8" @ 261 m**

Prior to spudding, all mud tanks were filled with water. Also, due to the relatively low output of the water bore, the near side of the sump was filled partially with water. All mud tanks (approximately 500 bbls) were treated with two sacks of Soda Ash and then had 19 ppb Ausgel (double yielding bentonite) to achieve a yield point in excess of 20 lb/100 ft² (funnel viscosity of around 50 sec/qt). Caustic Soda was added to increase the pH to approximately 9.5. The linear motion shale shakers were dressed with S84 screens.

For the initial stages of spud, while the large diameter collars were drilled past the conductor barrel, the pump rate remained low. It was then increased to approximately 740 gpm. The desilter was used almost from the outset, as the predominant formation type was sand. Despite the amount of sand drilled, blinding of the shakers was not a problem and downhole losses were not serious, totalling just over 200 bbls for the interval. Consequently, lcm was not added while drilling.

While drilling ahead, mud volume was maintained with pre-hydrated Ausgel additions. The yield point was maintained around 20 lb/100 ft² throughout the interval and the mud weight slowly increased to a maximum level of 8.9 ppg.

Drilling continued to a casing point of 261 m where the hole was circulated clean prior to running a wiper trip. When back on bottom, Enerseal fine was

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added prior to pulling out to run casing as a protection against cement losses when cementing. The pipe was then pulled from the hole.

13-3/8" surface casing was then run in the hole. After circulating the hole clean, the casing was cemented and cement was displaced with water. Returns were good for most of the job, but as the cement column rose near the surface, returns tapered off although good cement did return to surface. A top up job was eventually required. All mud tanks were then dumped and cleaned.

HOLE SIZE : 12¼" INTERMEDIATE HOLE
MUD TYPE : KCL PHPA POLYMER
INTERVAL : 261 m - 1233 m
CASING : 9-5/8" @ 1232 m

All tanks were filled with water that was sourced from the sump (approximately 600 bbls.) The pill tank was isolated as it was intended to be used to drill out cement. Into the remainder of the tanks, the following was added :

Xantemp	:	4 sacks (0.35 ppb)
AMC Pac-R	:	6 sacks (0.5 ppb)
Praestol PHPA	:	4 sacks (0.35 ppb)
KCl (ag grade)	:	240 sacks (22 ppb or 6%)
Caustic Soda	:	1 drum

A higher KCl concentration than the programmed 5% was added to allow for initial dilution after displacing the hole. Sodium Sulphite for corrosion control was added just prior to drilling ahead. The relatively coarse S84 screens were kept on the shale shakers in case problems were experienced with the fresh mud.

After BOPs had been installed and tested, a 12¼" bit was run in the hole. The cement, float and shoe were drilled out with water circulated through the pill tank. While drilling on the shoe, the hole was displaced to the premixed KCl PHPA fluid and all cement contaminated water was dumped.

The hole was drilled to 268 m where a leak off test was conducted, indicating a formation break down pressure equivalent to a mud weight of 18.7 ppg. Drilling then continued.

The Drilling Fluid's properties were then improved. Initially, the yield point was built up with Xantemp (Xanthan Gum) and the PHPA concentration was

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increased. Inhibition appeared very good judging by the nature of the cuttings at the shakers.

Once the yield point approached 20 lb/100 ft², barite additions commenced with the view to increasing the mud weight to 9.6 ppg prior to the Latrobe coals. Fortunately, the rig has two separate mud mixing hoppers which allowed barite to be added direct to the suction tank through one, while building fresh premixes in the other. These premixes consisted primarily of Xantemp for the building and maintenance of the yield point (20 - 30 lb/100 ft²) and PHPA and KCl for inhibition. Due to the rapid drilling of the larger 12¼" hole size, considerable amounts of volume had to be built on a continuous basis.

As the Xantemp and PHPA concentration were built up, the 6RPM reading increased to around 10 - 12, a very good level for hole cleaning. The mud weight reached the required level of 9.6 ppg by 650 m.

As the first coal was intersected, a rapid downhole mud loss of approximately 100 bbls occurred. LCM (Enerseal and Kwikseal) were added rapidly, although to a degree, the loss appeared to be self healing. A further LCM pill of 30 bbls was built in the pill tank in anticipation of further losses, especially as the mud cost per barrel was fairly expensive. Some biocide was also added to the mud system to prevent degradation of the Enerseal. The shale shaker screens were upgraded to S110's once the mud weight had increased to 9.6 ppg.

Drilling continued through the numerous coal seams with the mud weight being maintained at 9.6 - 9.7 ppg with barite. At 793 m the bit was tripped, with the hole being tight from 440 - 420 m. Upon running in with the new bit, the string became briefly stuck at 783 m but was worked free. The hole was then reamed from 762 m to bottom.

As drilling continued, the yield point was propped back up to over 20 lb/100 ft², as the coals had somewhat thinned the fluid. This ensured good hole cleaning, as evidenced by the large amounts of large sized coal cavings that came over the shale shakers. The fluid loss of the mud stayed at around 9 - 11 cc's simply with the addition of PHPA.

As drilling approached the casing point of 1233 m, it was ensured that the mud volume was high in the mud tanks due to the prospect of down hole losses while wiper tripping, logging and running of casing. The yield point was around 30 lb/100 ft² by casing point and the 6 RPM reading was at 13.

At casing point, the LCM pill built previously was pumped around as the hole was circulated clean. A wiper trip was made to 743 m and found the hole in

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good shape. The hole was again circulated clean and the pipe pulled for electric logging.

Electric logs were run on their first attempt. A bit was then made up and run back in the hole, reaming and washing from 1211 m to bottom. The hole was circulated clean and the pipe was pulled. The 9-5/8" casing was then run in the hole. When breaking circulation, approximately 160 bbls of mud was lost down hole due to the hole packing off. Once circulation was gained, no further problems occurred.

The casing was then cemented with neat cement, with fairly good returns, but the returns did appear to diminish once the cement top reached the top of the Latrobe coals.

After the cement job, the tanks were dumped and cleaned.

HOLE SIZE : 8½"
MUD TYPE : KCL PHPA POLYMER
INTERVAL : 1233 m - 2570 m (TD)
CASING : P&A

All tanks were filled with water that was again sourced from the sump (approximately 600 bbls.) The sump fluid by this stage had levels of KCl and PHPA in it. The pill tank was also isolated as it was intended to be used to drill out cement. Into the remainder of the tanks, the following was added :

Biocide	:	1 drum
Soda Ash	:	6 sacks
AMC Pac-R	:	8 sacks (0.5 ppb)
Xantemp	:	2 sacks (0.35 ppb)
Praestol PHPA	:	2 sacks (0.35 ppb)
KCl (ag grade)	:	216 sacks (to bring concentration to 5%)

The premix was more concentrated than what was expected to be drilled ahead with, as it was expected that it would be diluted back rapidly once displaced to the hole because of the large hole volume.

The S110 screens were kept on the shale shakers and the desilter was cleaned out. (Large coal chunks from the previous section had clogged the inlets.)

An 8½" bit was run in the hole and the cement, float and shoe were drilled out with water via the pill tank. Once into open hole, a leak off test was conducted

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at 1238 m indicating a formation breakdown pressure equivalent to a mud weight of 13.3 ppg. At the same time, the premixed mud was lined up to the hole and as drilling continued, the hole was displaced to mud and the cement contaminated water was dumped.

A new premix was rapidly built while drilling ahead, a it was expected that a DST would be conducted fairly soon after drilling out. Mud properties were fairly simple at this stage, with the yield point at around 10 lb/100 ft^2 and the fluid loss at approximately 8.5 cc's. The KCl concentration was just over 5% and the PHPA concentration was 0.15 ppb. The sulphite concentration was increased and maintained at around 120 mg/l for corrosion control.

As expected, DST # 1 was called at 1268 m and the hole was circulated clean. A heavy weight pill was mixed with KCl. (Unfortunately, the KCl did not dissolve rapidly and the mud did not suspend the KCl well, so a lot more KCl than expected was mixed. This subsequently led to a marked increase in the KCl concentration in the mud system, but this was not wasted as it was slowly diluted back in the following days.)

After pumping the pill, the pipe was pulled and test tools were made up. These were run in the hole and DST # 1 was conducted, with the packer being set inside the casing.

After the string had been pulled free, the string was reverse circulated and the test tools were then pulled from the hole and laid out.

A bit was run back in the hole and washed and reamed 16 m to bottom. Drilling then continued to 1338 m, where a bit change was made. In this interval, tight hole was worked at 1311 m (40 k over pull) with the mud weight at 8.9 ppg.

On running back in the hole, 20 m of hole was washed to bottom. Drilling continued with a tight connection at 1422 m (mud weight 9.2 ppg). It was quite noticeable that the mud weight was rapidly increasing while drilling ahead. The MBT did not show a huge increase so the increase in mud weight was due mainly to relatively inert formations dispersing into the mud. (The extent of this dispersion was not realised until electric logs were run later in this section.) Since the mud weight was increasing rapidly, the shaker screens were upgraded to S175 and the PHPA concentration was increased somewhat. With the increased PHPA usage, AMC Pac-R usage was curtailed as the fluid loss had dropped to around 7 cc's.

The mud weight increased to a maximum of 9.45 ppg while tight connections continued at 1741 m, 1769 m, 1881 m, 1909 m, 1947 m and 1960 m. The mud weight was controlled back to 9.2 - 9.3 ppg with heavy dilution, while

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maintaining a lowish yield point of around 8 - 10 lb/100 ft² (lowered yield points help facilitate solids control) and keeping the fluid loss below 10 cc's. The KCl concentration, by 2000 m, had dropped to 3.5% with the dilution that occurred. However, it seemed obvious that this was more than adequate because little depletion of K+ was occurring.

Drilling continued to 2152 m where the hole was circulated clean and a wiper trip conducted. After circulating bottoms up again, the pipe was pulled and electric logs were run. The calliper log showed the hole to be severely washed out, even in the areas where tight hole had earlier occurred. Moreover, the last 20 - 40 metres of hole became progressively more in gauge, indicating that the dispersion was time dependent.

It was consequently decided that to counter the dispersion and at the same time counter the resultant increase in solids which were responsible for the high mud weight, that the PHPA concentration would be increased to at least 1.5 ppb.

After logs, DST # 2 was conducted. Once completed, the string was reverse circulated and the test tools pulled from the hole and laid down.

A bit was then run in the hole, washing 19 m to bottom, and drilling continued. Mud was dumped and diluted back, while increasing the PHPA concentration to over 1.5 ppb.

At 2160 m, tight hole was worked and a rapid downhole loss of 60 bbls occurred. Drilling continued but at 2208 m, total losses were encountered and approximately 240 bbls were lost down hole. A concentrated slug of LCM was pumped (Kwikseal fine and medium) and soon after it passed the bit, circulation was regained. Drilling continued but considerable amounts of fresh volume had to be built, leading to substantially increased mud costs.

While drilling ahead, minor seepage losses were still evident but not serious enough to warrant more LCM additions. Further KCl additions were also made to bring the KCl concentration back to approximately 3%, while the PHPA concentration was maintained at 1.5 - 1.8 ppb. The higher PHPA concentration helped keep the fluid loss in the region of 6 - 7 cc's.

The considerable losses downhole led to a rapid dwindling of PHPA stock which could not be replenished due to the lost circulation problem occurring on Christmas Eve. Consequently, the PHPA concentration started to taper off, but was still at 1.4 ppb by the end of the hole. However, as PHPA was not aiding in maintaining the fluid loss any more and was not contributing to the yield point,

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AMC Pac-R and Xantemp additions had to be made once again. Unfortunately, PHPA would have been the cheaper option, so mud costs again started to rise.

Drilling continued to 2570 m, where a pressure drop led to the string being pulled wet from the hole. It was discovered that the jars had parted, so TD was called. The well was logged and inflate test tools were then made up and run in the hole. DST # 3 was conducted, and after resetting the tools, DST # 4 was run. The string was then reverse circulated and pulled from the hole. Drill pipe was then run in open ended and one cement plug was placed across the casing shoe. The rig was subsequently released.

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2. OBSERVATIONS, RECOMMENDATIONS AND WELL ANALYSIS

Trifon # 1 was drilled to a total depth of 2570 m for a mud cost of $110,785.30 or $43.11 per metre. No major problems were experienced although hole conditions in the 8½" hole section were not as good as could be expected and there are areas where cost savings could be implemented.

17½" Surface Hole

This section of hole was drilled to 261 m for a mud cost of $4807.00 or $18.42 per metre. No problems were experienced and possible downhole losses did not occur. LCM (Enerseal fine) was added to the mud just prior to pulling out to run casing. This may have improved cement returns but in light of the next well drilled, where the cement slurry weight was reduced by using prehydrated bentonite mixwater, the need to use LCM should not occur in future. No changes to the programmed mud system are required.

12¼" Intermediate Hole

This section of hole was drilled to 1233 m for a mud cost of $51,787.80 or $53.28 per metre. The high cost reflects the fact that this section was expected to be the most difficult to complete problem free. That it was drilled, logged and cased without major problems appears to justify the cost of the system used. However, some changes to the program could be made that would lower costs somewhat without compromising hole conditions.

This section was programmed to be drilled with a inhibitive KCl PHPA system. The inhibition was mainly due to the Lakes Entrance Formation, a formation which is quite sticky but appears to have little in the way of problematic "swelling clays". This was evidenced by the fact that not a lot of base exchange occurred with the Potassium in the mud. i.e. K+ levels did not deplete overly as they would when highly reactive shales are drilled.

The mud weight was also increased to around 9.6 ppg with barite as drilling progressed through to the Latrobe Group at about 660 m, which contains a lot of coal. Due to the rapid drilling of the prior formation and due to the fact that it was a 12¼" hole, which requires considerable new volume to be built, the mud weight increase started immediately the mud had enough carrying capacity.

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This carrying capacity was built with Xantemp (Xanthan Gum), but as the mud also contained PHPA, it was thought unwise to build all the pre-requisite properties the mud required for both inhibition (PHPA) and carrying capacity (Xanthan Gum) prior to drilling ahead, because of the worry that the shale shakers could not handle thick, cool, unsheared mud immediately. Consequently, for the first three or so hours after drilling commenced, the main focus was in building up the PHPA and Xanthan Gum concentration, before starting the weighting up process.

As it turned out, the mud weight increase was achieved (just in time) and the mud's carrying capacity was very good throughout. It was fortunate that the rig had two separately operated mud mixing hoppers which allowed the simultaneous addition of barite on the one hand, and polymers on the other.

So overall, the system worked well. However, the following are cost cutting measures that are felt would not compromise the hole's stability.

KCl Level

Given that there was not a lot of base exchange, PHPA with either lowered KCl concentrations (say 1.5 - 2%) or no KCl, but having NaCl (Salt) substituted instead. High chlorides are inhibitive in any case. What would be proposed is that NaCl be used as a major part of the weighting up process, as a 9.6 ppg fluid would be easily achieved with salt. PHPA would still be used, so inhibition would not be compromised.

An operational benefit of using salt instead of barite is that salt does not need a carrying capacity for mud weight to be built. In effect, the mud weight could be increased to say 9.0 -9.2 ppg prior to drilling ahead (it is doubtful whether the ROP would be severely limited in the top section of hole by having a higher mud weight to drill ahead with) and then built up to 9.6 ppg while drilling, negating the "rush and panic" that occurs when adding large amounts of product.

Additionally, the yield point could be built more slowly, ensuring it is at 25 - 30 lb/100 ft² by the time the coals are penetrated but not earlier.

Yield Point and Carrying Capacity

Although a small amount of AMC Pac-R was used at the outset, it was found that the natural fluid loss of the mud was stable without it subsequent use, simply by using PHPA. The viscosity that Regular Pac builds does not improve the mud's carrying capacity as does Xanthan Gum. This is because it builds up

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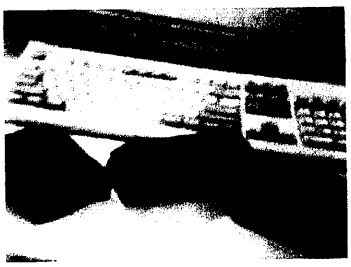
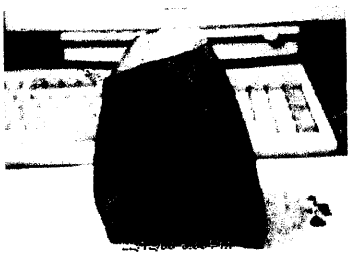
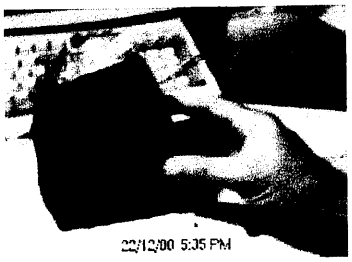
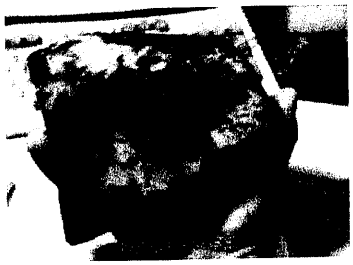
the Plastic Viscosity, which reduces the 6 RPM reading, an important factor in the relatively low shear rate area of the annulus.

Consequently, only Xantemp was used to build the yield point and improve the mud's carrying capacity. Although this was important early in the section to help suspend barite, the main reason it was used was to help keep the hole clean when the Latrobe Coals were drilled. This it did very well, as evidenced both by the trouble free logging run and the physical size of the sloughing coal chunks that were carried from the hole. Following are examples of the coal chunks seen at the shale shakers, which demonstrate the excellent cleaning properties of the fluid.





8½" Production Hole

This section of hole was drilled with a KCl PHPA Polymer Drilling Fluid from 1233 m to a total depth of 2570 m for a mud cost of $54,190.50 or $40.53 per foot. Problems encountered were tight hole on connections in various sections of hole, the poor hole gauge, and lost circulation to fracture zones.

Although the Drilling Fluid in the previous section of hole had a similar chemical make up, the high solids contents precluded its continued use in this section of hole, where the maintenance of a reasonably low mud weight was important.

The tight hole seen on a number of connections was an interesting phenomenon in the light of the fact that the hole was severely washed out in

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those areas when first logged. It certainly seemed obvious that the hole was deteriorating over time, and that the tight hole was probably a function of the mud weight not being high enough. So in that respect, perhaps some tight hole has to be lived with given that low mud weights are deemed fairly important.

What did not seem to be the case was that the formation was reactive. This was again evidenced by the low depletion rate of potassium. The formation was, though, extremely dispersive in nature. In hindsight, this was seen in the way the mud weight increased quite rapidly in the earlier section of 8½" hole, and especially seen in the way the calliper log improved in the 50 or so metres through to the bottom of the first log interval. i.e. It seemed quite plain that the hole gauge was deteriorating over time, or literally "dissolving" into the mud.

It was consequently decided that the PHPA concentration would be increased from around 0.5 ppb to at least 1.5 ppb. Whether this worked well or not is difficult to say, as the formation may have become less dispersive as the hole got deeper. However, solids control was made easier and hole gauge did improve. The recommendation for the next well, Gangell # 1, was to run a PHPA concentration of at least 1.5 ppb and that well will more accurately show whether the increased PHPA concentration worked.

The other problem to occur was not mud related but had a definite impact on mud costs. Severe lost circulation occurred to fractures and thereafter, down hole losses continued, albeit at a far reduced rate. This led to a run on PHPA stocks, which could not be replenished due to the first lost circulation happening on a Saturday, being Christmas Eve!

Up until that stage, the increased PHPA concentration had meant that little Xantemp or AMC Pac-R was required for yield point or fluid loss control. However, increased concentrations of both were required thereafter and the mud cost increased as a consequence.

The recommendations for a section of hole such as this in future would be based on the following lines :

Use a lowered concentration of KCl, around 2 - 2.5%.

Use Salt for weight increases, not barite, as this will aid in preventing any formation damage that may occur from barite plugging.

Use a high concentration of PHPA, at least 1.5 ppb and even up to 2.5 ppb.

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Subsequent experience on the Gangell # 1 well has shown that a mud weight increase to around 9.0 - 9.1 ppg might be necessary just to control the tight hole conditions that have been the main problematical area of both 8½" hole sections.

3. INTERVAL COSTS

Product		Interval :	17-1/2" Surface Hole 0 - 261 m			12-1/4" Intermediate Hole 261 m - 1233 m			8-1/2" Production Hole 1233 m - 2570 m			Total Well Consumption 0 - 2570 m (TD)		
	Cost	Unit Size	Used	Cost	%Cost	Used	Cost	%Cost	Used	Cost	%Cost	Used	Cost	%Cost
Aus Pac-R	$161.00	25 kg				6	$966.00	1.9%	57	$9,177.00	16.9%	63	$10,143.00	9.2%
Ausgel	$12.00	25 kg	304	$3,648.00	75.9%							304	$3,648.00	3.3%
Barite	$7.50	25 kg				1300	$9,750.00	18.8%	183	$1,372.50	2.5%	1483	$11,122.50	10.0%
Biocide	$140.00	25 kg				1	$140.00	0.3%	11	$1,540.00	2.8%	12	$1,680.00	1.5%
Caustic Soda	$32.00	20 kg	2	$64.00	1.3%	6	$192.00	0.4%	13	$416.00	0.8%	21	$672.00	0.6%
Defoamer	$125.00	25 kg				6	$750.00	1.4%	7	$875.00	1.6%	13	$1,625.00	1.5%
Enerseal Fine	$52.00	25 kg	20	$1,040.00	21.6%	36	$1,872.00	3.6%	7	$364.00	0.7%	63	$3,276.00	3.0%
KCl Ag	$17.55	25 kg				576	$10,108.80	19.5%	720	$12,636.00	23.3%	1296	$22,744.80	20.5%
Kwikseal Fine	$50.00	18.2 kg				18	$900.00	1.7%	54	$2,700.00	5.0%	72	$3,600.00	3.2%
Kwikseal Medium	$50.00	18.2 kg				18	$900.00	1.7%	2	$100.00	0.2%	20	$1,000.00	0.9%
Lime	$12.00	20 kg				2	$24.00	0.0%	3	$36.00	0.1%	5	$60.00	0.1%
PHPA	$120.00	25 kg				31	$3,720.00	7.2%	94	$11,280.00	20.8%	125	$15,000.00	13.5%
Soda Ash	$27.50	25 kg	2	$55.00	1.1%	10	$275.00	0.5%	27	$742.50	1.4%	39	$1,072.50	1.0%
Sodium Sulphite	$39.50	25 kg				20	$790.00	1.5%	57	$2,251.50	4.2%	77	$3,041.50	2.7%
Xantemp SD	$535.00	25 kg				40	$21,400.00	41.3%	20	$10,700.00	19.7%	60	$32,100.00	29.0%
		Totals :		**$4,807.00**	**100.0%**		**$51,787.80**	**100.0%**		**$54,190.50**	**100.0%**		**$110,785.30**	**100.0%**
		Cost per Metre :		**$18.42**			**$53.28**			**$40.53**			**$43.11**	

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4. MATERIALS RECONCILIATION

Previous Well : Ex Dyers Transport
Well : Trifon # 1
Transferred to : Gangell # 1

PRODUCT	UNIT	TOTAL RECEIVED	TOTAL USED	TRANSFER BALANCE
AMC Pac-LV	25 kg	40		40
AMC Pac-R	25 kg	160	63	97
Ausgel	25 kg	714	304	410
Barite	25 kg	2880	1483	1397
Biocide	20 kg	18	12	6
Caustic Soda	20 kg	34	21	13
Citric Acid	25 kg	27		27
Defoamer	25 lt	16	13	3
Enerseal Fine	25 kg	157	63	94
KCl	25 kg	1920	1296	624
Kwikseal Fine	18.2 kg	75	72	3
Kwikseal Medium	18.2 kg	60	20	40
Lime	20 kg	55	5	50
PHPA (Praestol)	25 kg	125	125	
Rod Free	200 lt	2		2
Soda Ash	25 kg	40	39	1
Sodium Sulphite	25 kg	120	77	43
Xantemp	25 kg	90	60	30

5. FLUID PROPERTIES SUMMARY

Date	Mud Type	Temp.	Depth	Weight	Vis	PV	YP	Gels		Filtrate		Solids					pH	Pm	Pf	Mf	Cl-	Ca++	SO3=	K+	KCl	PHPA
								10 sec	10 min	API	Cake	Solids	Water	Oil	Sand	MBT										
	Gel Spud Mud		105	8.70	49	9	22	12	18	17	2	2.5	97.5		1/2		9.0		0.10	0.20	700	100				
5-Dec-00	Gel Spud Mud	28	220	8.90	46	8	20	14	22	16	2	4.0	96.0		1/2		8.5		0.05	0.15	700	160				
	Gel Spud Mud		261	9.10	47	9	22	12	20	16	2	5.4	94.6		1/2		8.0		0	0.10	750	180				
6-Dec-00	Gel Spud Mud		261	9.20	43							6.1	93.9													
8-Dec-00	KCl PHPA Polymer	25	336	8.70	47	13	24	8	10	11	1	0.6	99.4		Tr		9.5		0.10	0.45	32,250	520	140	32,964.4	6.1	0.50
	KCl PHPA Polymer	34	660	9.70	49	15	28	10	12	11	1	8.5	91.5		1/4	4.0	8.5		0.05	0.35	20,500	600	80	21,076	3.9	
9-Dec-00	KCl PHPA Polymer	38	751	9.75	47	18	19	8	11	10	1	8.4	91.6		1/4	6.0	8.0		0	0.25	29,000	520	120	27,560	5.1	0.45
10-Dec-00	KCl PHPA Polymer	36	890	9.60	43	14	15	5	8	11.0	1	7.4	92.6		1/2	5.0	8.5		0.05	0.50	27,000	480	80	24,858	4.6	0.40
	KCl PHPA Polymer	45	1070	9.60	45	13	23	9	11	11.2	1	7.3	92.7		1/4		8.5		0.05	0.70	29,000	440	140	27,560	5.1	0.45
11-Dec-00	KCl PHPA Polymer	47	1195	9.60	44	14	30	10	12	9.8	1	7.4	92.6		1/2	5.0	8.8		0.10	0.80	27,000	340	120	25,939	4.8	0.50
12-Dec-00	KCl PHPA Polymer	47	1233	9.70	45	13	29	10	12	9.5	1	8.1	91.9		1/2	5.0	8.8		0.10	0.90	26,500	360	120	25,939	4.8	0.50
13-Dec-00	KCl PHPA Polymer	43	1233	9.70	46	14	31	11	14	9.5	1	8.1	91.9		1/2	5.0	8.5		0.05	0.95	26,500	400	100	25,939	4.8	0.50
14-Dec-00	KCl PHPA Polymer		1233	9.60	42	13	15	5	8	13.0	2	7.5	92.5		1/2		8.0		0	1.10	25,000	440	80	24,318	4.5	0.45
15-Dec-00	KCl PHPA Polymer	33	1245	8.75	37	9	11	1	2	8.6	1	1.1	98.9		Tr		9.5		0.35	1.10	31,000	100	100	29,182	5.4	0.20
16-Dec-00	KCl PHPA Polymer	34	1268	8.75	37	10	10	1	2	8.5	1	1.1	98.9		Tr	2.0	9.5		0.30	1.10	31,000	100	80	29,182	5.4	0.15
	KCl PHPA Polymer	36	1295	8.90	38	8	11	1	2	9.5	1	1.4	98.6		Tr		9.5		0.30	1.10	42,500	140	80	41,070	7.6	0.15
17-Dec-00	KCl PHPA Polymer		1338	8.90	40	10	13	1	3	8.0	1	1.5	98.5		Tr	2.5	9.5		0.30	1.15	41,000	140	100	38,909	7.2	0.20
	KCl PHPA Polymer	38	1420	9.20	40	12	14	1	3	7.4	1	3.8	96.2		Tr	5.0	9.0		0.15	0.90	39,000	160	120	37,288	6.9	0.30
18-Dec-00	KCl PHPA Polymer	41	1625	9.30	38	9	11	1	2	7.2	1	4.6	95.4		Tr	7.5	8.5		0.10	0.85	37,500	200	140	35,126	6.5	0.40
	KCl PHPA Polymer	42	1740	9.35	36	11	9	1	2	7.8	1	5.3	94.7		Tr	8.0	9.0		0.15	0.90	32,000	480	120	30,262	5.6	0.50
19-Dec-00	KCl PHPA Polymer	42	1865	9.35	38	11	11	1	3	8.4	1	5.6	94.4		Tr	7.0	8.5		0.05	0.80	27,000	380	120	25,399	4.7	0.55
	KCl PHPA Polymer	45	1960	9.45	38	11	10	1	2	9.0	1	6.6	93.4		Tr	7.5	8.5		0.05	0.70	23,000	400	100	21,616	4.0	0.60
20-Dec-00	KCl PHPA Polymer	47	2060	9.30	36	10	8	1	2	8.5	1	5.7	94.3		Tr	6.5	8.0		0	0.65	19,500	380	120	18,374	3.4	0.50
21-Dec-00	KCl PHPA Polymer	45	2152	9.40	38	14	12	1	3	8.0	1	6.5	93.5		Tr	6.0	8.5		0.05	0.75	18,500	340	100	17,293	3.2	0.50
22-Dec-00	KCl PHPA Polymer	43	2160	9.40	47	18	10	1	2	7.0	1	6.6	93.4		1/4	7.0	8.5		0.05	0.70	17,000	380	120	16,212	3.0	0.65
23-Dec-00	KCl PHPA Polymer	47	2183	9.30	49	17	12	1	2	6.5	1	5.9	94.1		Tr	7.0	8.0		0	0.65	16,500	400	120	15,672	2.9	1.00
	KCl PHPA Polymer	43	2240	9.05	47	15	14	1	2	6.0	1	4.2	95.8		Tr	5.0	9.0		0.10	0.70	14,000	240	160	13,510	2.5	1.40
24-Dec-00	KCl PHPA Polymer	48	2300	9.00	45	15	11	1	2	5.6	1	3.8	96.2		Tr	5.0	8.5		0.05	0.65	15,000	320	120	14,591	2.7	1.80
	KCl PHPA Polymer	46	2388	8.95	41	13	11	1	2	6.0	1	3.3	96.7		Tr	5.0	8.5		0.05	0.65	18,000	300	120	17,293	3.2	1.70
25-Dec-00	KCl PHPA Polymer	47	2450	9.10	40	12	11	1	2	7.5	1	4.4	95.6		Tr	4.0	8.5		0.05	0.65	17,500	320	140	16,752	3.1	1.70
	KCl PHPA Polymer	48	2500	9.10	41	10	10	1	2	7.2	1	4.4	95.6		Tr	4.5	8.5		0.05	0.70	17,000	350	80	16,212	3.0	1.65
26-Dec-00	KCl PHPA Polymer	48	2548	9.00	38	9	10	1	2	6.4	1	3.9	96.1		Tr	4.0	8.5		0.05	0.65	14,000	300	80	13,510	2.5	1.50
27-Dec-00	KCl PHPA Polymer		2570	9.10	34	9	9	1	2	7.2	1	4.6	95.4		Tr	4.0	8.5		0.05	0.65	14,000	280	100	13,510	2.5	1.40

RMN Drilling Fluids

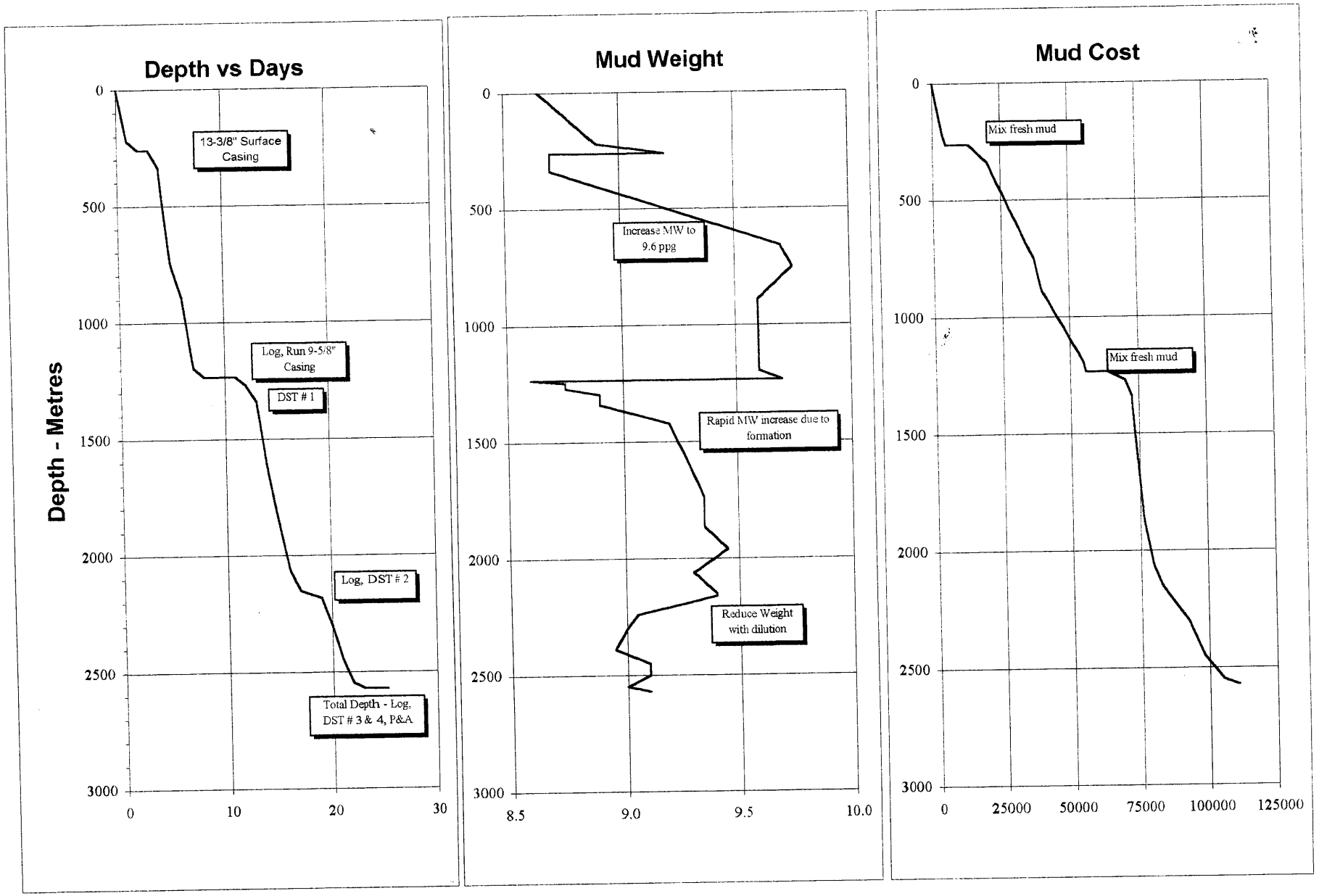
6. Mud Volume Analysis

Date	Hole Size	Interval From	Interval To	Mud Type	Fluid Built & Received: Fresh Premix	Sump Premix	Direct Recirc	Water	Other	Fluid Disposed: De-sander	De-silter	Down-hole	Dumped	Other	Summary: Initial	Received	Disposed	Final
5-Dec-00	17-1/2"	0 m	229 m	Spud Mud	650			500		0	180	191			0	1150	371	779
6-Dec-00	17-1/2"	229 m	261 m	Spud Mud	80					0	23	11			779	80	34	825
Sub Total					**730**	**0**	**0**	**500**	**0**	**0**	**203**	**202**	**0**	**0**		**1230**	**405**	
7-Dec-00	12-1/4"	261 m	261 m	KCl PHPA		600				0	0				0	600	0	600
8-Dec-00	12-1/4"	261 m	289 m	KCl PHPA				40		0	0	0			600	40	0	640
9-Dec-00	12-1/4"	289 m	751 m	KCl PHPA		200		170		0	51	140			640	370	191	819
10-Dec-00	12-1/4"	751 m	907 m	KCl PHPA		200				0	0	98	40		819	200	138	880
11-Dec-00	12-1/4"	907 m	1206 m	KCl PHPA		350		50		0	0	112	40		880	400	152	1128
12-Dec-00	12-1/4"	1206 m	1233 m	KCl PHPA		100		20		0	0	98	50		1128	120	148	1101
13-Dec-00	12-1/4"	1233 m	1233 m	KCl PHPA				30		0	0	90			1101	30	90	1041
14-Dec-00	12-1/4"	1233 m	1233 m	KCl PHPA			150	70		0	0	310			1041	220	310	951
Sub Total					**0**	**1450**	**150**	**380**	**0**	**0**	**51**	**848**	**130**	**0**		**1980**	**1029**	
15-Dec-00	8-1/2"	1233 m	1233 m	KCl PHPA		550				0	0	0			0	550	0	550
16-Dec-00	8-1/2"	1233 m	1268 m	KCl PHPA		260				0	0	23	40		550	260	63	747
17-Dec-00	8-1/2"	1268 m	1338 m	KCl PHPA		100				0	11	34	40	15	747	100	100	747
18-Dec-00	8-1/2"	1338 m	1635 m	KCl PHPA		280				0	43	19	80	35	747	280	177	850
19-Dec-00	8-1/2"	1635 m	1871 m	KCl PHPA		400				0	82	3	200	35	850	400	320	930
20-Dec-00	8-1/2"	1871 m	2060 m	KCl PHPA		400	150			0	62	13	450	35	930	550	560	920
21-Dec-00	8-1/2"	2060 m	2152 m	KCl PHPA		160	50			0	30	20	150	30	920	210	230	900
22-Dec-00	8-1/2"	2152 m	2152 m	KCl PHPA						0	0	0			900	0	0	900
23-Dec-00	8-1/2"	2152 m	2183 m	KCl PHPA		100				0	7	14	40	15	900	100	76	924
24-Dec-00	8-1/2"	2183 m	2300 m	KCl PHPA		400	150			0	46	384	15	20	924	550	465	1009
25-Dec-00	8-1/2"	2300 m	2450 m	KCl PHPA		250				0	27	136	20	25	1009	250	208	1051
26-Dec-00	8-1/2"	2450 m	2550 m	KCl PHPA	200	100				0	38	196	40	25	1051	300	299	1052
27-Dec-00	8-1/2"	2550 m	2570 m	KCl PHPA	100					0	9	157	20	10	1052	100	196	956
28-Dec-00	8-1/2"	2570 m	2570 m	KCl PHPA	65					0	0	165	40	10	956	65	215	806
29-Dec-00	8-1/2"	2570 m	2570 m	KCl PHPA						0	0	75			806	0	75	731
Sub Total					**365**	**3000**	**350**	**0**	**0**	**0**	**354**	**1239**	**1135**	**255**		**3715**	**2984**	
Well Total					**1095**	**4450**	**500**	**880**	**0**	**0**	**609**	**2290**	**1265**	**255**		**6925**	**4419**	

Dilution Factors	Interval Length	Dilution Vol	Dilution Factor
17-1/2" Surface Hole	261 m	580 bbls	2.2 bbls/m
12-1/4" Intermediate Hole	972 m	1380 bbls	1.4 bbls/m
8-1/2" Hole	1337 m	3165 bbls	2.4 bbls/m

RMN Drilling Fluids

7. Graphs



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RMN Drilling Fluids

9.1 Hole Gauge Evaluation

Hole Gauge by Formation Interpreted from Caliper Log Data

12-1/4" Intermediate Hole

Loggers Depth	1213 m	Calc OH Vol	455 bbl
Bit Size	12.25"	Actual OH Vol	459 bbl
CSG Size	13-3/8"	Volume Excess	4 bbl
CSG ID	12.715"	Excess %	1%
CSG Shoe	261 m	Average Hole Diam	12.3"
OH Depth	952 m	CSG Volume	134.5 bbls
		Total Volume	593 bbls

FORMATION	FROM (m)	TO (m)	INTERVAL	CUB m	AVG DIAM inches
Gippsland Limestone	261 m	620	359 m	27 cub m	12.26"
Lakes Entrance	620	681	61 m	4.7 cub m	12.27"
Latrobe Gp (Top Clastics)	681	842.5	161.5 m	12 cub m	12.31"
Latrobe Gp (Top Coals)	842.5	1212.5	370 m	29 cub m	12.33"

RMN Drilling Fluids

9.2 Hole Gauge Evaluation

Hole Gauge by Formation Interpreted from Caliper Log Data

8-1/2" Hole - Run # 1

Loggers Depth	2145 m	Calc OH Vol	210 bbl
Bit Size	8.5"	Actual OH Vol	445 bbl
CSG Size	9-5/8"	Volume Excess	235 bbl
CSG ID	8.921"	Excess %	112%
Start Log Interval	1234 m	Average Hole Diam	12.4"
OH Depth	911 m	CSG Volume	313.1 bbls
		Total Volume	758 bbls

FORMATION	FROM (m)	TO (m)	INTERVAL	CUB m	AVG DIAM inches
Strzelecki Group	1234 m	1250	16 m	3.0 cub ms	19.2"
	1250	1300	50 m	5.8 cub ms	15.1"
	1300	1350	50 m	3.6 cub ms	11.9"
	1350	1400	50 m	2.8 cub ms	10.5"
	1400	1450	50 m	3.1 cub ms	11.0"
	1450	1500	50 m	3.6 cub ms	11.9"
	1500	1550	50 m	3.2 cub ms	11.3"
	1550	1600	50 m	3.3 cub ms	11.4"
	1600	1650	50 m	3.8 cub ms	12.3"
	1650	1700	50 m	3.9 cub ms	12.4"
	1700	1750	50 m	3.7 cub ms	12.1"
	1750	1800	50 m	3.7 cub ms	12.1"
	1800	1850	50 m	4.6 cub ms	13.4"
	1850	1900	50 m	4.4 cub ms	13.2"
	1900	1950	50 m	4.9 cub ms	13.9"
	1950	2000	50 m	4.0 cub ms	12.6"
	2000	2050	50 m	4.1 cub ms	12.7"
	2050	2100	50 m	3.2 cub ms	11.2"
	2100	2145	45 m	2.2 cub ms	9.8"

RMN Drilling Fluids

9.3 Hole Gauge Evaluation

Hole Gauge by Formation Interpreted from Caliper Log Data

8-1/2" Hole - Run # 2

Loggers Depth	2550 m	Calc OH Vol	93 bbl
Bit Size	8.50"	Actual OH Vol	150 bbl
CSG Size	9-5/8"	Volume Excess	56 bbl
CSG ID	8.921"	Excess %	61%
Start Log Interval	2145 m	Average Hole Diam	10.8"
OH Depth	405 m	CSG Volume	544.3 bbls
		Total Volume	694 bbls

FORMATION	FROM (m)	TO (m)	INTERVAL	CUB m	AVG DIAM inches
Strzelecki Group	2145 m	2150	5 m	0.3 cub ms	10.9"
	2150	2200	50 m	2.7 cub ms	10.4"
	2200	2250	50 m	2.6 cub ms	10.1"
	2250	2300	50 m	2.6 cub ms	10.1"
	2300	2350	50 m	2.1 cub ms	9.0"
	2350	2400	50 m	4.2 cub ms	12.8"
	2400	2450	50 m	3.2 cub ms	11.2"
	2450	2500	50 m	3.4 cub ms	11.5"
	2500	2550	50 m	2.9 cub ms	10.7"

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RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	1	Date :	5-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth		to 229	Metres

ERATOR	Lakes Oil	CONTRACTOR	ODE
PORT FOR	Brent Speechley	REPORT FOR	John Greydanus
ELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

LLING ASSEMBLY		JET SIZE		
IZE	TYPE	18	18	18
.50	Varel			
PIPE	TYPE	Length		
4.5	16.6 #	40 Mtrs		
PIPE	TYPE	Length		
4.5	HW	37 Mtrs		
COLLAR SIZE (")		Length		
6.25	8	122	30	Mtrs

CASING		
SURFACE SET @	ft / M	
INT. SET @	ft / M	
PROD. or LNR Set @	ft / M	
MUD TYPE	Gel Spud Mud	

MUD VOLUME (BBL)	
HOLE	PITS
204	575
TOTAL CIRCULATING VOL.	779
IN STORAGE	

CIRCULATION DATA			
PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1200 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	10 min		
BBL/STK	0.0700	STK / MIN	260
TOTAL CIRC. TIME (min)	44 min		
BBL/MIN	17.65	GAL / MIN	741
ANN VEL. (ft/min)	DP 64 / DCs 68 75		

MUD PROPERTIES				
SAMPLE FROM		FL	FL	
TIME SAMPLE TAKEN		17.30	23.45	
DEPTH (ft) - (m)	Metres	105	220	
FLOWLINE TEMPERATURE	°C / °F		28	
WEIGHT	ppg / SG	8.70 1.044	8.90 1.068	
FUNNEL VISCOSITY (sec/qt) API @	°C	49	46	
PLASTIC VISCOSITY cP @	°C	9	8	
Y D POINT (lb/100ft²)		22	20	
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		12 18	14 22	
FILTRATE API (cc's/30 min)		17	16.0	
HPHT FILTRATE (cc's/30 min) @	°F			
CAKE THICKNESS API : HPHT (32nd in)		2	2	
SOLIDS CONTENT (% by Volume)		2.5	4.0	
LIQUID CONTENT (% by Volume) OIL/WATER		97.5	96.0	
SAND CONTENT (% by Vol.)		0.50	0.50	
METHYLENE BLUE CAPACITY (ppb equiv.)				
pH		9.0	8.5	
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)		0.10 0.20	0.05 0.15	
CHLORIDE (mg/L)		700	700	
TOTAL HARDNESS AS CALCIUM (mg/L)		100	160	
SULPHITE (mg/L)				
K+ (mg/L)				
KCl (% by Wt.)				
PHPA ppb				

MUD PROPERTY SPECIFICATIONS			
Mud Weight	Min	API Filtrate	HPHT Filtrate
Plastic Vis		Yield Point > 20	pH
KCl		PHPA	Sulphites

OBSERVATIONS

All mud tanks were filled with water and added 19 ppb Ausgel.
As drilling progressed, water and fresh gel additions were made to maintain volume and yield point.
Down hole losses appeared minor and did not warrant lcm additions while drilling.

Make up water : Pf/Mf : 0/.1
Chlorides : 700 mg/l
Hardness : 120 mg/l

OPERATIONS SUMMARY

Spud Trifon # 1 at 13.30 hours
Drill 17-1/2" hole with regular surveys to midnight depth of 229 m.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
alx (drill water)	650	Desander		INITIAL VOLUME	
ni irc from sump)		Desilter	180		
Water	500	Downhole	191	+ FLUID RECEIVED	1150
ct Recirc Sump		Dumped		-FLUID LOST	371
r (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	1150	TOTAL LOST	371	FINAL VOLUME	779

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 84	11
Degasser	PB		Desilter	12	10.5	Shaker #2	3 x 84	11

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	8.8	13.8	12.00

Product	Price	Start	Received	Used	Close	Cost
gel	$ 12.00	714		294	420	$ 3,528.00
stic Soda	$ 32.00	34		2	32	$ 64.00
a Ash	$ 27.50	40		2	38	$ 55.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids	4.0	
Salt		
n @ 23.45 Hrs	0.36	
K @ 23.45 Hrs	2.92	

BIT HYD. PRESS.DATA

Jet Velocity	318
Impact force	1088
HHP	351
HSI	1.5
Bit Press Loss	811
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	8.95
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$3,647.00	$3,647.00

IN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	2	Date :	6-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	229 to 261		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE		
7.50	Varel	18	18	18
LL PIPE	TYPE	Length		
E 4.5	16.6 #	72	Mtrs	
LL PIPE	TYPE	Length		
E 4.5	HW	37	Mtrs	
LL COLLAR SIZE (")		Length		
6.25	8	122	30	Mtrs

CASING

SURFACE SET @	ft	M
INT. SET @	ft	M
PROD. or LNR Set @	ft	M
MUD TYPE	Gel Spud Mud	

MUD VOLUME (BBL)

HOLE	PITS
235	590
TOTAL CIRCULATING VOL.	825
IN STORAGE	

CIRCULATION DATA

PUMP SIZE		CIRCULATION PRESS (PSI)	1200 psi
6 X 8	Inches		
PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	12 min
GD PZ8	97.0		
BBL/STK	STK / MIN	TOTAL CIRC. TIME (min)	47 min
0.0700	260		
BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP	64
17.65	741	DCs	68 75

MUD PROPERTIES

		FL	FL
SAMPLE FROM			
TIME SAMPLE TAKEN		04.00	20.00
DEPTH (ft) - (m)	Metres	261	261
FLOWLINE TEMPERATURE	°C / °F		
WEIGHT	ppg / SG	9.10 1.092	9.20 1.104
FUNNEL VISCOSITY (sec/qt) API @	°C	47	43
PLASTIC VISCOSITY cP @	°C	9	
YIELD POINT (lb/100ft²)		22	
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		12 20	
FILTRATE API (cc's/30 min)		16	
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		2	
SOLIDS CONTENT (% by Volume)		5.4	6.1
LIQUID CONTENT (% by Volume) OIL/WATER		94.6	93.9
SAND CONTENT (% by Vol.)		0.50	
METHYLENE BLUE CAPACITY (ppb equiv.)			
pH		8.0	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.10	
CHLORIDE (mg/L)		750	
TOTAL HARDNESS AS CALCIUM (mg/L)		180	
SULPHITE (mg/L)			
K+ (mg/L)			
KCl (% by Wt.)			
PHPA ppb			

MUD PROPERTY SPECIFICATIONS

Mud Weight	Min	API Filtrate	HPHT Filtrate
Plastic Vis		Yield Point > 20	pH
KCl		PHPA	Sulphites

OBSERVATIONS

After cement job, add 1 sack PHPA to mud remaining in tanks in attempt to flocculate gel and separate water.
All tanks to be dumped and cleaned.
Trip tank to be isolated to drill cement.
Remaining tanks to be filled with water and frsh mud to be mixed comprising :
- 4 sacks Xantemp
- 3 sacks AMC Pac-R
- 3 sacks PHPA
- 240 sacks KCl

Caustic and Sodium Sulphite to be added later.

OPERATIONS SUMMARY

Drill to section TD of 261 m.
Circulate hole clean.
POH wiper trip to 8" collars.
RIH. Circulate and add lcm to mud remaining in hole.
POH.
Rig up and run 13-3/8" casing.
Circulate casing and cement same. Good cement returns.
WOC.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	80	Desander		INITIAL VOLUME	779
ecirc from sump)		Desilter	23		
ill water		Downhole	11	+ FLUID RECEIVED	80
ect Recirc Sump		Dumped		-FLUID LOST	34
er (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	80	TOTAL LOST	34	FINAL VOLUME	825

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 84	6
Degasser	PB		Desilter	12	2	Shaker #2	3 x 84	6

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.1	13.2	8.00

Product	Price	Start	Received	Used	Close	Cost
gel	$ 12.00	420		10	410	$ 120.00
erseal Fine	$ 52.00	157		20	137	$ 1,040.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids	6.1	
Salt		
n @ 20.00 Hrs		
K @ 20.00 Hrs		

BIT HYD. PRESS.DATA

Jet Velocity	318
Impact force	1125
HHP	362
HSI	1.5
Bit Press Loss	838
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$1,160.00	$4,807.00

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908901 115

DRILLING FLUID REPORT

RMN Drilling Fluids

Report #	3	Date :	7-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	261 to 261		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE	Length
PIPE 4.5	TYPE 16.6 #		Mtrs
PIPE 4.5	TYPE HW		Mtrs
COLLAR SIZE (") 6.25	8		Mtrs

CASING

13.375" SURFACE SET @	837 / 255.1	ft / M
INT. SET @		ft / M
PROD. or LNR Set @		ft / M

MUD TYPE: Gel Spud Mud

MUD VOLUME (BBL)

HOLE	PITS
	600

TOTAL CIRCULATING VOL. 600

IN STORAGE

CIRCULATION DATA

PUMP SIZE 6 X 8 Inches		CIRCULATION PRESS (PSI)	psi
PUMP MODEL: GD PZ8	ASSUMED EFF: 97.0	BOTTOMS UP (min)	min
BBL/STK: 0.0700	STK / MIN	TOTAL CIRC. TIME (min)	min
BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	

MUD PROPERTIES

	FL	FL
SAMPLE FROM		
TIME SAMPLE TAKEN		
DEPTH (ft) - (m) Metres		
FLOWLINE TEMPERATURE °C / °F		
WEIGHT ppg / SG		
FUNNEL VISCOSITY (sec/qt) API @ °C		
PLASTIC VISCOSITY cP @ °C		
YIELD POINT (lb/100ft²)		
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		
FILTRATE API (cc's/30 min)		
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)		
SOLIDS CONTENT (% by Volume)		
LIQUID CONTENT (% by Volume) OIL/WATER		
SAND CONTENT (% by Vol.)		
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		
CHLORIDE (mg/L)		
TOTAL HARDNESS AS CALCIUM (mg/L)		
SULPHITE (mg/L)		
K+ (mg/L)		
KCl (% by Wt.)		
PHPA ppb		

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	8 - 10	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Dumped and cleaned mud tanks.
Filled same with water and mixed fresh mud.
Kept S84 screens on shakers

Rheology: 600: 300: 200: 100: 60: 30: 6: 3:

OPERATIONS SUMMARY

WOC.
Slack off and lay out conductor
Weld stabilising bars for conductor to casing
Conduct top up job
Pick up rams and make up.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	600	Desander		INITIAL VOLUME	
ecirc from sump)		Desilter			
ater		Downhole		+ FLUID RECEIVED	600
ect Recirc Sump		Dumped		-FLUID LOST	
er (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	600	TOTAL LOST		FINAL VOLUME	600

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 84	
Degasser	PB		Desilter	12		Shaker #2	3 x 84	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
C Pac-R	$ 161.00	120		6	114	$ 966.00
foamer	$ 125.00	16		4	12	$ 500.00
	$ 17.55	960		240	720	$ 4,212.00
PA (Praestol)	$ 120.00	25		4	21	$ 480.00
ftemp	$ 535.00	90		4	86	$ 2,140.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids		
Salt		
n @ Hrs		
K @ Hrs		

BIT HYD. PRESS.DATA

Jet Velocity	
Impact force	
HHP	
HSI	#DIV/0!
Bit Press Loss	
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$8,298.00	$13,105.00

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908901 116

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	4	Date :	8-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	261 to 289		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE 16	16	18	Length	
2.25	Varel L114					
L PIPE 4.5	TYPE 16.6 #				107	Mtrs
L PIPE 4.5	TYPE HW				37	Mtrs
L COLLAR SIZE (") 6.25	8				114	31 Mtrs

CASING

13.375" SURFACE SET @	856	ft
	260.9	M
INT. SET @		ft
		M
PROD. or LNR Set @		ft
		M
MUD TYPE	KCl PHPA Polymer	

MUD VOLUME (BBL)

HOLE	PITS
126	514
TOTAL CIRCULATING VOL.	640
IN STORAGE	

CIRCULATION DATA

PUMP SIZE 6 X 8 Inches		CIRCULATION PRESS (PSI)	900 psi
PUMP MODEL GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min)	7 min
BBL/STK 0.0700	STK / MIN 220	TOTAL CIRC. TIME (min)	43 min
BBL/MIN 14.94	GAL / MIN 627	ANN VEL. (ft/min) DP	118
		DCs	138 179

MUD PROPERTIES

	FL	FL
SAMPLE FROM		
TIME SAMPLE TAKEN		02.00
DEPTH (ft) - (m) Metres		336
FLOWLINE TEMPERATURE °C / °F		25
WEIGHT ppg / SG		8.70 1.044
FUNNEL VISCOSITY (sec/qt) API @ °C		47
PLASTIC VISCOSITY cP @ °C		13
YIELD POINT (lb/100ft²)		24
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		8 10
FILTRATE API (cc's/30 min)		10.5
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		0.6
LIQUID CONTENT (% by Volume) OIL/WATER		99.4
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		9.5
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0.10 0.45
CHLORIDE (mg/L)		32,250
TOTAL HARDNESS AS CALCIUM (mg/L)		520
SULPHITE (mg/L)		140
K+ (mg/L)		32,964
KCl (% by Wt.)		6.1
PHPA ppb		0.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	8 - 10	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Initially, building yield point with Xantemp to ensure both good hole cleaning and sufficient carrying capacity for barite additions.
Increasing mud weight with barite to 9.6 ppg prior to entering Latrobe coals.
Maintaining sulphite levels at approximately 100 mg/l with sodium sulphite.
KCl levels started high to allow for initial dilution - level will be allowed to drop to around 5%.
Inhibition is good - cuttings slide off one's hands showing that they are well encapsulated.
Hole cleaning is good as evidenced by cuttings emerging from the hole.

OPERATIONS SUMMARY

Nipple up BOPs
Pressure Test
Make up bit and BHA and RIH.Tag float at 250 m
Drill to 268 m
Conduct FIT
Drill ahead

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	600
m[illegible]ecirc from sump)		Desilter			
1[illegible]	40	Downhole	0	+ FLUID RECEIVED	40
ct Recirc Sump		Dumped		-FLUID LOST	0
er (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	40	TOTAL LOST	0	FINAL VOLUME	640

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 84	3
Degasser	PB		Desilter	12		Shaker #2	3 x 84	3

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
PA (Praestol)	$ 120.00	21	100	3	118	$ 360.00
ium Sulphite	$ 39.50	120		4	116	$ 158.00
temp	$ 535.00	86		12	74	$ 6,420.00
ite			480		960	
		528	192		720	
ikseal Fine			75		75	
C Pac-R		114	40		154	

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	0.6	
Bentonite		
Drilled Solids	0.6	
Salt	22.0	6.0
n @ 02.00 Hrs	0.43	
K @ 02.00 Hrs	2.47	

BIT HYD. PRESS.DATA

Jet Velocity	313
Impact force	885
HHP	281
HSI	2.4
Bit Press Loss	767
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	8.85
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$6,938.00	$20,043.00

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RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	5	Date :	9-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	289 to 751		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY		JET SIZE			CASING		MUD VOLUME (BBL)	
SIZE	TYPE	16	16	18	13.375" SURFACE	856 ft	HOLE	PITS
12.25	Varel L114				SET @	260.9 M	339	480
DRL PIPE	TYPE	Length			INT.	ft	TOTAL CIRCULATING VOL.	
OD 4.5	16.6 #	569	Mtrs		SET @	M	819	
DRL PIPE	TYPE	Length			PROD. or	ft	IN STORAGE	
OD 4.5	HW	37	Mtrs		LNR Set @	M		
DRL COLLAR SIZE (")		Length			MUD TYPE			
6.25	8	114	31	Mtrs	KCl PHPA Polymer			

CIRCULATION DATA			
PUMP SIZE		CIRCULATION PRESS (PSI)	1300 psi
6 X 8 Inches		BOTTOMS UP (min)	21 min
PUMP MODEL	ASSUMED EFF	TOTAL CIRC. TIME (min)	55 min
GD PZ8	97.0	ANN VEL. DP	118
BBL/STK	STK / MIN	(ft/min) DCs	138 179
0.0700	220		
BBL/MIN	GAL / MIN		
14.94	627		

MUD PROPERTIES		FL	FL
SAMPLE FROM			
TIME SAMPLE TAKEN		16.00	24.00
DEPTH (ft) - (m)	Metres	660	751
FLOWLINE TEMPERATURE	°C / °F	34	38
WEIGHT	ppg / SG	9.70 1.164	9.75 1.170
FUNNEL VISCOSITY (sec/qt) API @	°C	49	47
PLASTIC VISCOSITY cP @	FL °C	15	18
YIELD POINT (lb/100ft²)		28	19
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		10 12	8 11
FILTRATE API (cc's/30 min)		10.5	10.0
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		5.3	5.5
LIQUID CONTENT (% by Volume) OIL/WATER		94.7	94.5
SAND CONTENT (% by Vol.)		0.25	0.25
METHYLENE BLUE CAPACITY (ppb equiv.)		4.0	6.0
pH		8.5	8.0
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.35	0 0.25
CHLORIDE (mg/L)		20,500	29,000
TOTAL HARDNESS AS CALCIUM (mg/L)		600	520
SULPHITE (mg/L)		80	120
K+ (mg/L)		21,076	27,560
KCl (% by Wt.)		3.9	5.1
PHPA ppb			

MUD PROPERTY SPECIFICATIONS					
Mud Weight	8.5 - 9.6	API Filtrate	< 12	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Increased mud weight to minimum of 9.6 ppg with barite.
Rheology being maintained with Xantemp. Although there was a thinning effect after the first coals were drilled through, it was mainly the yield point that dropped and the plactic viscosity that increased as a result. The more important 6 rpm reading was still at 10, a good level for hole cleaning.
Lost approximately 100 bbls as the first coals were intersected. LCM was rapidly added although the loss appeared to be self healing. A further LCM pill was built and stored in the pill tank in readiness for further losses.
Biocide was added to prevent decay of Enerseal.
Rheology: 600:55, 300:37, 200:30, 100:23, 60:19,30:15, 6:10, 3:8

OPERATIONS SUMMARY

Drill to 717 m
Circulate bottoms up as coal interesected and down hole mud loss occurred.
Drill ahead.

MUD ACCOUNTING (BBLS)				SUMMARY	
FLUID BUILT & RECEIVED		FLUID DISPOSED		INITIAL VOLUME	640
Mix (drill water)	200	Desander			
Mix (Recirc from sump)		Desilter	51		
Mix	170	Downhole	140	+ FLUID RECEIVED	370
Direct Recirc Sump		Dumped		-FLUID LOST	191
Other (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	370	TOTAL LOST	191	FINAL VOLUME	819

SOLIDS CONTROL EQUIPMENT								
	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 84	24
Degasser	PB		Desilter	12	6	Shaker #2	3 x 84	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.7	12.8	6.00

Product	Price	Start	Received	Used	Close	Cost
Barite	$ 7.50	960		760	200	$ 5,700.00
Biocide	$ 140.00	18		1	17	$ 140.00
Enerseal Fine	$ 52.00	137		30	107	$ 1,560.00
Gel	$ 17.55	720		192	528	$ 3,369.60
Likseal Fine	$ 50.00	75		18	57	$ 900.00
Likseal Medium	$ 50.00	60		18	42	$ 900.00
PHPA (Praestol)	$ 120.00	118		8	110	$ 960.00
Sodium Sulphite	$ 39.50	116		4	112	$ 158.00
Xantemp	$ 535.00	74		6	68	$ 3,210.00

SOLIDS ANALYSIS	PPB	%
High Grav solids	58.0	
Total LGS	13.7	
Bentonite	6.0	
Drilled Solids	7.7	
Salt	19.0	
n @ 24.00 Hrs	0.57	
K @ 24.00 Hrs	1.05	

BIT HYD. PRESS.DATA	
Jet Velocity	313
Impact force	992
HHP	315
HSI	2.7
Bit Press Loss	859
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	9.90
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$16,897.60	$36,940.60

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908901 118

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	6	Date :	10-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	751 to 907		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD / LOCATION	PEP 137 / Gippsland Basin
		STATE	Victoria

DRILLING ASSEMBLY

		JET SIZE		
SIZE	TYPE	16	18	18
12.25	Varel L117			
DRL PIPE	TYPE	Length		
OD 4.5	16.6 #	725	Mtrs	
DRL PIPE	TYPE	Length		
OD 4.5	HW	37	Mtrs	
DRL COLLAR SIZE (")		Length		
6.25	8	114	31	Mtrs

CASING

13.375" SURFACE SET @	856 / 260.9	ft / M
INT. SET @		ft / M
PROD. or LNR Set @		ft / M
MUD TYPE	KCl PHPA Polymer	

MUD VOLUME (BBL)

HOLE	PITS
410	470
TOTAL CIRCULATING VOL.	880
IN STORAGE	

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1050 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	25 min		
BBL/STK	0.0700	STK / MIN	220
TOTAL CIRC. TIME (min)	59 min		
BBL/MIN	14.94	GAL / MIN	627
ANN VEL. (ft/min)	DP 118 / DCs 138 179		

MUD PROPERTIES

		FL	FL
SAMPLE FROM			
TIME SAMPLE TAKEN			23.00
DEPTH (ft) - (m)	Metres		890
FLOWLINE TEMPERATURE	°C / °F		36
WEIGHT	ppg / SG		9.60 1.152
FUNNEL VISCOSITY (sec/qt) API @	°C		43
PLASTIC VISCOSITY cP @	FL °C		14
YIELD POINT (lb/100ft²)			15
GEL STRENGTHS (lb/100ft²) 10 sec/10 min			5 8
FILTRATE API (cc's/30 min)			11.0
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)			1
SOLIDS CONTENT (% by Volume)			4.9
LIQUID CONTENT (% by Volume) OIL/WATER			95.1
SAND CONTENT (% by Vol.)			0.50
METHYLENE BLUE CAPACITY (ppb equiv.)			5.0
pH			8.5
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			0.05 0.50
CHLORIDE (mg/L)			27,000
TOTAL HARDNESS AS CALCIUM (mg/L)			480
SULPHITE (mg/L)			80
K+ (mg/L)			24,858
KCl (% by Wt.)			4.6
PHPA ppb			0.40

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	< 12	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Improving rheology with Xantemp as values have dropped due to dilution and coals.
Maintaining minimum mud weight of 9.6 ppg.

Rheology: 600:43, 300:29, 200:23, 100:17, 60:13, 30:10, 6:6, 3:5

OPERATIONS SUMMARY

Drill to 793 m.
POH to shoe for rig repairs. Hole tight 440 - 420 m.
POH to surface to change bit.
RIH
Stuck at 783 m. Work free with max OP of 50 k. Lay out single.
Ream 762 m - 793 m.
Drill ahead.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	200	Desander		INITIAL VOLUME	819
Premix (recirc from sump)		Desilter			
Mill		Downhole	98	+ FLUID RECEIVED	200
Direct Recirc Sump		Dumped	40	-FLUID LOST	138
Other (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	200	TOTAL LOST	138	FINAL VOLUME	880

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	14
Degasser	PB		Desilter	12		Shaker #2	3 x 110	14

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
Caustic Soda	$ 32.00	32		2	30	$ 64.00
KCl	$ 17.55	528		48	480	$ 842.40
PHPA (Praestol)	$ 120.00	110		3	107	$ 360.00
Sodium Sulphite	$ 39.50	112		4	108	$ 158.00
Xantemp	$ 535.00	68		3	65	$ 1,605.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids	46.0	
Total LGS	12.7	
Bentonite	6.0	
Drilled Solids	6.7	
Salt	18.0	
n @ 23.00 Hrs	0.57	
K @ 23.00 Hrs	0.84	

BIT HYD. PRESS.DATA

Jet Velocity	290
Impact force	904
HHP	265
HSI	2.2
Bit Press Loss	724
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	9.70
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$3,029.40	$39,970.00

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908901 113

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	7	Date :	11-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	907 to 1206		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY

		JET SIZE		
SIZE	TYPE	16	18	18
12.25	Varel L117			
DL PIPE	TYPE	Length		
E 4.5	16.6 #	1024	Mtrs	
DL PIPE	TYPE	Length		
E 4.5	HW	37	Mtrs	
DL COLLAR SIZE (")		Length		
6.25	8	114	31	Mtrs

CASING

13.375" SURFACE	856	ft
SET @	260.9	M
INT.		ft
SET @		M
PROD. or		ft
LNR Set @		M
MUD TYPE	KCl PHPA Polymer	

MUD VOLUME (BBL)

HOLE	PITS
548	530
TOTAL CIRCULATING VOL.	1128
IN STORAGE	50

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1200 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	34 min	BBL/STK	0.0700
STK / MIN	220	TOTAL CIRC. TIME (min)	76 min
BBL/MIN	14.94	GAL / MIN	627
ANN VEL. (ft/min) DP	118	DCs	138 179

MUD PROPERTIES

		FL	FL
SAMPLE FROM			
TIME SAMPLE TAKEN		11.00	23.00
DEPTH (ft) - (m)	Metres	1,070	1,195
FLOWLINE TEMPERATURE	°C / °F	45	47
WEIGHT	ppg / SG	9.60 1.152	9.60 1.152
FUNNEL VISCOSITY (sec/qt) API @	°C	45	44
PLASTIC VISCOSITY cP @	FL °C	13	14
YIELD POINT (lb/100ft²)		23	30
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		9 11	10 12
FILTRATE API (cc's/30 min)		11.2	9.8
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		4.6	4.8
LIQUID CONTENT (% by Volume) OIL/WATER		95.4	95.2
SAND CONTENT (% by Vol.)		0.25	0.50
METHYLENE BLUE CAPACITY (ppb equiv.)			5.0
pH		8.5	8.8
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.70	0.10 0.80
CHLORIDE (mg/L)		29,000	27,000
TOTAL HARDNESS AS CALCIUM (mg/L)		440	340
SULPHITE (mg/L)		140	120
K+ (mg/L)		27,560	25,939
KCl (% by Wt.)		5.1	4.8
PHPA ppb		0.45	0.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	< 12	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Ensured that there was good volume by casing point.
Maintained mud weight at 9.6 - 9.7 ppg with barite.
Xantemp was used to maintain good hole cleaning and suspension properties.
Mud is in as good a shape as possible now in an attempt to ensure trouble free logging and casing operations.

Rheology: 600:58, 300:44, 200:38, 100:30, 60:26, 30:21, 6:13, 3:11

OPERATIONS SUMMARY

Drill ahead.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Mix (drill water)	350	Desander		INITIAL VOLUME	880
Mix (recirc from sump)		Desilter			
Mill	50	Downhole	112	+ FLUID RECEIVED	400
Direct Recirc Sump		Dumped	40	-FLUID LOST	152
Diesel (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	400	TOTAL LOST	152	FINAL VOLUME	1,128

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	24
Degasser	PB		Desilter	12		Shaker #2	3 x 110	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
Barite	$ 7.50	200	960	400	760	$ 3,000.00
Caustic Soda	$ 32.00	30		4	26	$ 128.00
Foamer	$ 125.00	12		2	10	$ 250.00
Gel	$ 17.55	480	960	96	1344	$ 1,684.80
HPA (Praestol)	$ 120.00	107		11	96	$ 1,320.00
Soda Ash	$ 27.50	38		10	28	$ 275.00
Sodium Sulphite	$ 39.50	108		8	100	$ 316.00
Xantemp	$ 535.00	65		15	50	$ 8,025.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids	50.0	
Total LGS	11.9	
Bentonite	5.0	
Drilled Solids	6.9	
Salt	5.3	
n @ 23.00 Hrs	0.40	
K @ 23.00 Hrs	3.67	

BIT HYD. PRESS.DATA

Jet Velocity	290
Impact force	904
HHP	265
HSI	2.2
Bit Press Loss	724
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	9.75
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$14,998.80	$54,968.80

MUD ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 120

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	8	Date :	12-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1206 to 1233		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE 16	18	18
12.25	Varel L117			
DL PIPE	TYPE	Length		
E 4.5	16.6 #	1051 Mtrs		
DL PIPE	TYPE	Length		
E 4.5	HW	37 Mtrs		
DL COLLAR SIZE (")		Length		
6.25	8	114	31 Mtrs	

CASING

13.375" SURFACE SET @	856	ft
	260.9	M
INT. SET @		ft
		M
PROD. or LNR Set @		ft
		M
MUD TYPE	KCl PHPA Polymer	

MUD VOLUME (BBL)

HOLE	PITS
561	460
TOTAL CIRCULATING VOL.	1101
IN STORAGE	80

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1200 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	35 min		
BBL/STK	0.0700	STK / MIN	220
TOTAL CIRC. TIME (min)	74 min		
BBL/MIN	14.94	GAL / MIN	627
ANN VEL. (ft/min) DP	118		
DCs	138	179	

MUD PROPERTIES

		FL	FL
SAMPLE FROM			
TIME SAMPLE TAKEN			10.00
DEPTH (ft) - (m)	Metres		1,233
FLOWLINE TEMPERATURE	°C / °F		47
WEIGHT	ppg / SG		9.70 1.164
FUNNEL VISCOSITY (sec/qt) API @	°C		45
PLASTIC VISCOSITY cP @	FL °C		13
YIELD POINT (lb/100ft²)			29
STRENGTHS (lb/100ft²) 10 sec/10 min			10 12
FILTRATE API (cc's/30 min)			9.5
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)			1
SOLIDS CONTENT (% by Volume)			5.3
LIQUID CONTENT (% by Volume) OIL/WATER			94.7
SAND CONTENT (% by Vol.)			0.50
METHYLENE BLUE CAPACITY (ppb equiv.)			5.0
pH			8.8
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			0.10 0.90
CHLORIDE (mg/L)			26,500
TOTAL HARDNESS AS CALCIUM (mg/L)			360
SULPHITE (mg/L)			120
K+ (mg/L)			25,939
KCl (% by Wt.)			4.8
PHPA ppb			0.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	< 12	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

OPERATIONS SUMMARY

Drill to 1233 m.
Pump around lcm pill mixed couple of days ago as a precuationary measure.
Circulate bottoms up.
POH to 743 m.
RIH to 1211 m. Wash to botom. No fill.
Circulate hole clean. POH.
Run Electric Logs.
RIH with bit.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	100	Desander		INITIAL VOLUME	1128
m (recirc from sump)		Desilter			
ll	20	Downhole	98	+ FLUID RECEIVED	120
ect Recirc Sump		Dumped	50	-FLUID LOST	148
er (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	120	TOTAL LOST	148	FINAL VOLUME	1,101

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	9
Degasser	PB		Desilter	12		Shaker #2	3 x 110	9

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
ite	$ 7.50	760		80	680	$ 600.00
PA (Praestol)	$ 120.00	96		2	94	$ 240.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids	50.0	
Total LGS	12.6	
Bentonite	5.0	
Drilled Solids	7.6	
Salt	5.2	
n @ 10.00 Hrs	0.39	
K @ 10.00 Hrs	3.72	

BIT HYD. PRESS.DATA

Jet Velocity	290
Impact force	913
HHP	268
HSI	2.3
Bit Press Loss	731
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	9.85
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$840.00	$55,808.80

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903901 121

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	9	Date :	13-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1233 to 1233		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE	
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner	
WELL NAME AND No	Trifon # 1	FIELD	LOCATION	STATE
		PEP 137	Gippsland Basin	Victoria

DRILLING ASSEMBLY

	TYPE	JET SIZE			Length	
SIZE 2.25	Varel L117					
L PIPE 4.5	TYPE 16.6 #				1051	Mtrs
L PIPE 4.5	TYPE HW				37	Mtrs
L COLLAR SIZE (") 6.25	8				114	31 Mtrs

CASING

13.375" SURFACE SET @	856	ft
	260.9	M
INT. SET @		ft
		M
PROD. or LNR Set @		ft
		M

MUD TYPE: KCl PHPA Polymer

MUD VOLUME (BBL)

HOLE	PITS
561	440

TOTAL CIRCULATING VOL. 1041

IN STORAGE 40

CIRCULATION DATA

PUMP SIZE 6 X 8 Inches		CIRCULATION PRESS (PSI)	600 psi
PUMP MODEL GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min)	35 min
BBL/STK 0.0700	STK / MIN 220	TOTAL CIRC. TIME (min)	70 min
BBL/MIN 14.94	GAL / MIN 627	ANN VEL. (ft/min) DP	118
		DCs	138 179

MUD PROPERTIES

	FL	FL
SAMPLE FROM		
TIME SAMPLE TAKEN		08.00
DEPTH (ft) - (m) Metres		1,233
FLOWLINE TEMPERATURE °C / °F		43
WEIGHT ppg / SG		9.70 1.164
FUNNEL VISCOSITY (sec/qt) API @ °C		46
PLASTIC VISCOSITY cP @ FL °C		14
YIELD POINT (lb/100ft²)		31
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		11 14
FILTRATE API (cc's/30 min)		9.5
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		5.3
LIQUID CONTENT (% by Volume) OIL/WATER		94.7
SAND CONTENT (% by Vol.)		0.50
METHYLENE BLUE CAPACITY (ppb equiv.)		5.0
pH		8.5
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.95
CHLORIDE (mg/L)		26,500
TOTAL HARDNESS AS CALCIUM (mg/L)		400
SULPHITE (mg/L)		100
K+ (mg/L)		25,939
KCl (% by Wt.)		4.8
PHPA ppb		0.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	< 12	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Some mud losses down hole but at this stage it is not worth building new volume.

OPERATIONS SUMMARY

RIH
Ream 1211 m - bottom.
Circ and condition hole.
POH.
Rig up and run 9-5/8" casing.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	1101
m[illegible]ecirc from sump)		Desilter			
[illegible]	30	Downhole	90	+ FLUID RECEIVED	30
ct Recirc Sump		Dumped		-FLUID LOST	90
er (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	30	TOTAL LOST	90	FINAL VOLUME	1,041

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	3
Degasser	PB		Desilter	12		Shaker #2	3 x 110	3

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
lite		680	960		1640	
	Nil Used					

SOLIDS ANALYSIS

	PPB	%
High Grav solids	50.0	
Total LGS	12.6	
Bentonite	5.0	
Drilled Solids	7.6	
Salt	18.0	
n @ 08.00 Hrs	0.39	
K @ 08.00 Hrs	3.94	

BIT HYD. PRESS.DATA

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	9.85
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
	$55,808.80

MUD ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 122

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	10	Date :	14-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1233 to 1233		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
		LOCATION	Gippsland Basin
		STATE	Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE	Length	
DRILL PIPE	TYPE			
4.5	16.6 #		1051	Mtrs
DRILL PIPE	TYPE		Length	
4.5	HW		37	Mtrs
DRILL COLLAR SIZE (")			Length	
6.25	8		114 31	Mtrs

CASING

13.375" SURFACE SET @	856	ft
	260.9	M
INT. SET @		ft
		M
PROD. or LNR Set @		ft
		M
MUD TYPE	KCl PHPA Polymer	

MUD VOLUME (BBL)

HOLE	PITS
96	390
TOTAL CIRCULATING VOL.	486
IN STORAGE	

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	psi
PUMP MODEL	GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min) 10 min
BBL/STK	0.0700	STK / MIN 90	TOTAL CIRC. TIME (min) 79 min
BBL/MIN	6.11	GAL / MIN 257	ANN VEL. (ft/min) DP DCs

MUD PROPERTIES

	FL	FL
SAMPLE FROM		
TIME SAMPLE TAKEN		11.00
DEPTH (ft) - (m) Metres		1,233
FLOWLINE TEMPERATURE °C °F		
WEIGHT ppg / SG		9.60 1.152
FUNNEL VISCOSITY (sec/qt) API @ °C		42
PLASTIC VISCOSITY cP @ FL °C		13
YIELD POINT (lb/100ft²)		15
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		5 8
FILTRATE API (cc's/30 min)		13.0
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)		2
SOLIDS CONTENT (% by Volume)		5.0
LIQUID CONTENT (% by Volume) OIL/WATER		95.0
SAND CONTENT (% by Vol.)		0.50
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		8.0
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0 1.10
CHLORIDE (mg/L)		25,000
TOTAL HARDNESS AS CALCIUM (mg/L)		440
SULPHITE (mg/L)		80
K+ (mg/L)		24,318
KCl (% by Wt.)		4.5
PHPA ppb		0.45

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.6	API Filtrate	< 12	HPHT Filtrate	
Plastic Vis	Min	Yield Point	15 - 25	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

After cement job, dump all tanks and clean thoroughly.
Fill tanks with water recycled from sump (back section now.)
Add the following chemicals :

- Biocide : 1 drum
- Soda Ash : 6 sacks
- AMC Pac-R : 8 sacks
- Xantemp SD : 2 sacks
- PHPA : 2 sacks
- KCl : 216 sacks
- Sodium Sulphite : 4 sacks

OPERATIONS SUMMARY

Run 9-5/8" casing.
Break circulation (with some difficulty). Lost 160 bbls down hole.
Circulate hole and wait on cement trucks.
Cement casing.
WOC and start nippling up BOPs.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	1041
mix (recirc from sump)		Desilter			
mill	70	Downhole	310	+ FLUID RECEIVED	220
Reject Recirc Sump	150	Dumped		-FLUID LOST	310
Water (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	
TOTAL RECEIVED	220	TOTAL LOST	310	FINAL VOLUME	951

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	11
Degasser	PB		Desilter	12		Shaker #2	3 x 110	11

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
Barite	$ 7.50	680	960	60	1580	$ 450.00
Driterseal Fine	$ 52.00	107		6	101	$ 312.00
Lime	$ 12.00	55		2	53	$ 24.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids	50.0	
Total LGS	12.5	
Bentonite	5.0	
Drilled Solids	7.5	
Salt	18.0	
n @ 11.00 Hrs	0.55	
K @ 11.00 Hrs	0.91	

BIT HYD. PRESS.DATA

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	833
Equiv. Mud Wt.	18.7
ECD	9.70
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$786.00	$56,594.80

MUD ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 123

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	11	Date :	15-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1233 to 1233		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE	
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner	
WELL NAME AND No	Trifon # 1	FIELD	LOCATION	STATE
		PEP 137	Gippsland Basin	Victoria

DRILLING ASSEMBLY

		JET SIZE		
SIZE	TYPE	10	12	12
8.50	Varel L114			
DRILL PIPE	TYPE	Length		
4.5	16.6 #	968	Mtrs	
DRILL PIPE	TYPE	Length		
4.5	HW	83	Mtrs	
DRILL COLLAR SIZE (")		Length		
6.25		182	Mtrs	

CASING

13 3/8	SURFACE	856	ft
	SET @	260.9	M
9 5/8	INT.	4042	ft
	SET @	1232	M
	PROD. or		ft
	LNR Set @		M

MUD TYPE: KCl PHPA Polymer

MUD VOLUME (BBL)

HOLE	PITS
274	550

TOTAL CIRCULATING VOL.

IN STORAGE

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	29 min	BBL/STK	0.0700
STK / MIN	120	TOTAL CIRC. TIME (min)	min
BBL/MIN	8.15	GAL / MIN	342
ANN VEL. (ft/min) DP	161	DCs	253

MUD PROPERTIES

	FL	FL
SAMPLE FROM		
TIME SAMPLE TAKEN		
DEPTH (ft) - (m)	Metres	
FLOWLINE TEMPERATURE	°C / °F	
WEIGHT	ppg / SG	
FUNNEL VISCOSITY (sec/qt) API @	°C	
PLASTIC VISCOSITY cP @	°C	
YIELD POINT (lb/100ft²)		
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		
FILTRATE API (cc's/30 min)		
HPHT FILTRATE (cc's/30 min) @	°F	
CAKE THICKNESS API : HPHT (32nd in)		
SOLIDS CONTENT (% by Volume)		
LIQUID CONTENT (% by Volume) OIL/WATER		
SAND CONTENT (% by Vol.)		
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		
CHLORIDE (mg/L)		
TOTAL HARDNESS AS CALCIUM (mg/L)		
SULPHITE (mg/L)		
K+ (mg/L)		
KCl (% by Wt.)		
PHPA ppb		

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

All mud mixed and left gunning in tanks.
Premix is somewhat concentrated and will be diluted while drilling out cement.
Will displace hole to fresh mud while drilling on shoe.
Will then have to build fresh volume based on similar recipe.
Use KCl for heavy weight pill.

OPERATIONS SUMMARY

Nipple up BOPs.
Pressure Test.
Make up 8-1/2" bit and BHA and RIH.
Tag cement.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED	
mix (drill water)	550	Desander	
mix (recirc from sump)		Desilter	
		Downhole	
ect Recirc Sump		Dumped	
ier (eg Diesel)		Centrifuge	
TOTAL RECEIVED	550	TOTAL LOST	

SUMMARY	
INITIAL VOLUME	
+ FLUID RECEIVED	550
-FLUID LOST	
+ FLUID IN STORAGE	
FINAL VOLUME	550

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	
Degasser	PB		Desilter	12		Shaker #2	3 x 110	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
IC Pac-R	$ 161.00	154		8	146	$ 1,288.00
cide	$ 140.00	17		1	16	$ 140.00
l	$ 17.55	1344		216	1128	$ 3,790.80
PA (Praestol)	$ 120.00	94		2	92	$ 240.00
la Ash	$ 27.50	28		6	22	$ 165.00
lium Sulphite	$ 39.50	100		4	96	$ 158.00
ntemp	$ 535.00	50		2	48	$ 1,070.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids		
Salt		
n @ Hrs		
K @ Hrs		

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$6,851.80	$63,446.60

MUD ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

903901 124

DRILLING FLUID REPORT

RMN Drilling Fluids

Report #	12	Date :	16-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1233 to 1268		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY

		Length	
SIZE	TYPE	JET SIZE 10 12 12	
8.50	Varel L114		
DRILL PIPE	TYPE		
SIZE 4.5	16.6 #	1003	Mtrs
DRILL PIPE	TYPE		
SIZE 4.5	HW	83	Mtrs
DRILL COLLAR SIZE (")			
6.25		182	Mtrs

CASING

13 3/8	SURFACE SET @	856	ft
		260.9	M
9 5/8	INT. SET @	4042	ft
		1232	M
	PROD. or LNR Set @		ft
			M

MUD TYPE: KCl PHPA Polymer

MUD VOLUME (BBL)

HOLE	PITS
282	465

TOTAL CIRCULATING VOL. 747

IN STORAGE

CIRCULATION DATA

PUMP SIZE 6 X 8 Inches		CIRCULATION PRESS (PSI)	1050 psi
PUMP MODEL GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min)	30 min
BBL/STK 0.0700	STK / MIN 120	TOTAL CIRC. TIME (min)	92 min
BBL/MIN 8.15	GAL / MIN 342	ANN VEL. (ft/min) DP	161
		DCs	253

MUD PROPERTIES

SAMPLE FROM		FL	FL	
TIME SAMPLE TAKEN		05.00	08.00	
DEPTH (ft) - (m)	Metres	1,245	1,268	
~~FLOWLINE TEMPERATURE~~	°C °F	33	34	
WEIGHT	ppg / SG	8.75 1.050	8.75 1.050	
~~FUNNEL VISCOSITY (sec/qt) API @~~	°C	37	37	
PLASTIC VISCOSITY cP @	FL °C	9	10	
YIELD POINT (lb/100ft²)		11	10	
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		1 2	1 2	
FILTRATE API (cc's/30 min)		8.6	8.5	
HPHT FILTRATE (cc's/30 min) @	°F			
~~CAKE THICKNESS API : HPHT (32nd in)~~		1	1	
SOLIDS CONTENT (% by Volume)		1.1	1.1	
LIQUID CONTENT (% by Volume) OIL/WATER		98.9	98.9	
SAND CONTENT (% by Vol.)		Tr	Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)			2.0	
pH		9.5	9.5	
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)		0.35 1.10	0.30 1.10	
CHLORIDE (mg/L)		31,000	31,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		100	100	
SULPHITE (mg/L)		100	80	
K+ (mg/L)		29,182	29,182	
KCl (% by Wt.)		5.4	5.4	
PHPA ppb		0.20	0.15	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

After displacing hole to fresh mud, built fresh volume.
No problems with shale shakers handling mud flow, so prior to drilling ahead, will be changing all shaker screens to S175.
Will increase yield point somewhat when drilling ahead, although lowish values will help keep solids and therefore mud weight down.
Dumped and cleaned out sandtrap.
KCl used for heavy weight pill.

OPERATIONS SUMMARY

Pressure Test.
Drill out float and shoe.
Displace hole to fresh mud while drilling on shoe.
Drill new hole to 1238 m.
Conduct FIT (13.3 ppg)
Drill ahead to 1268 m.
Circulate sample.
Pump pill and POH.
Make up test tools and RIH.
Conduct DST # 1.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED	
mix (drill water)	260	Desander	
Prem recirc from sump)		Desilter	
Drill er		Downhole	23
ect Recirc Sump		Dumped	40
er (eg Diesel)		Centrifuge	
TOTAL RECEIVED	260	TOTAL LOST	63

SUMMARY	
INITIAL VOLUME	550
+ FLUID RECEIVED	260
-FLUID LOST	63
+ FLUID IN STORAGE	
FINAL VOLUME	747

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	7
Degasser	PB		Desilter	12		Shaker #2	3 x 110	7

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
IC Pac-R	$ 161.00	146		4	142	$ 644.00
Biocide	$ 140.00	16		2	14	$ 280.00
I	$ 17.55	1128		249	879	$ 4,369.95
ia Ash	$ 27.50	22		3	19	$ 82.50
Sodium Sulphite	$ 39.50	96		2	94	$ 79.00
Xantemp	$ 535.00	48		2	46	$ 1,070.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	2.8	
Bentonite	2.0	
Drilled Solids	0.8	
Salt	20.0	5.4
n @ 08.00 Hrs	0.58	
K @ 08.00 Hrs	0.52	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	571
HHP	213
HSI	3.7
Bit Press Loss	1065
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	8.90
Max Pressure @ Shoe :	956

DAILY COST	CUMULATIVE COST
$6,525.45	$69,972.05

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908901 125

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	13	Date :	17-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1268 to 1338		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Conner
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY		JET SIZE		
SIZE	TYPE	10	12	12
8.50	Varel L114			
DRILL PIPE	TYPE	Length		
SIZE 4.5	16.6 #	1073 Mtrs		
DRILL PIPE	TYPE	Length		
SIZE 4.5	HW	83 Mtrs		
DRILL COLLAR SIZE (")		Length		
6.25		182 Mtrs		

CASING			
13 3/8	SURFACE SET @	856 ft	260.9 M
9 5/8	INT. SET @	4042 ft	1232 M
	PROD. or LNR Set @	ft	M
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)	
HOLE	PITS
297	450
TOTAL CIRCULATING VOL.	747
IN STORAGE	

CIRCULATION DATA			
PUMP SIZE	6 X 8 inches	CIRCULATION PRESS (PSI)	1300 psi
PUMP MODEL	GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min) 31 min
BBL/STK	0.0700	STK / MIN 120	TOTAL CIRC. TIME (min) 92 min
BBL/MIN	8.15	GAL / MIN 342	ANN VEL. (ft/min) DP 161 DCs 253

MUD PROPERTIES		Pit	Pit
SAMPLE FROM			
TIME SAMPLE TAKEN		15.00	20.00
DEPTH (ft) - (m)	Metres	1,295	1,338
FLOWLINE TEMPERATURE	°C / °F	36	
WEIGHT	ppg / SG	8.90 1.068	8.90 1.068
FUNNEL VISCOSITY (sec/qt) API @	°C	38	40
PLASTIC VISCOSITY cP @	°C	8	10
YIELD POINT (lb/100ft²)		11	13
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		1 2	1 3
FILTRATE API (cc's/30 min)		9.5	8.0
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		1.4	1.5
LIQUID CONTENT (% by Volume) OIL/WATER		98.6	98.5
SAND CONTENT (% by Vol.)		Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			2.5
pH		9.5	9.5
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.30 1.10	0.30 1.15
CHLORIDE (mg/L)		42,500	41,000
TOTAL HARDNESS AS CALCIUM (mg/L)		140	140
SULPHITE (mg/L)		80	100
K+ (mg/L)		41,070	38,909
KCl (% by Wt.)		7.6	7.2
PHPA ppb		0.15	0.20

MUD PROPERTY SPECIFICATIONS					
Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Increase yield point and lowering fluid loss with AMC Pac-R.

Cleaned out inlets on desilter and made operational again.

Upgraded 4 shaker screens to S175 - will upgrade remaining two screens if flow permits.

KCl and then barite used for heavy weight pills.

Rheology: 600:27, 300:19, 200:15.5, 100:11, 60:9, 30:6, 6:3, 3:2.

OPERATIONS SUMMARY

Conduct DST # 1.

Drop bar and reverse circulate.

Pump pill and POH.

Lay down test tools.

Make up bit and BHA and RIH.

Wash & ream 1252 m - 1268 m.

Drill ahead to 1338 m. (Work tight hole at 1311 m - 40 k max OP)

Pump pill and POH bit change.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	100	Desander		INITIAL VOLUME	747
[illegible] (recirc from sump)		Desilter	11		
Drill [illegible]r		Downhole	34	+ FLUID RECEIVED	100
ect Recirc Sump		Dumped	40	-FLUID LOST	100
er (eg Diesel)		Shakers	15	+ FLUID IN STORAGE	
TOTAL RECEIVED	100	TOTAL LOST	100	FINAL VOLUME	747

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 110	8
Degasser	PB		Desilter	12	5	Shaker #2	3 x 110	8

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	8.9	9.9	1.50

Product	Price	Start	Received	Used	Close	Cost
AMC Pac-R	$ 161.00	142		5	137	$ 805.00
Barite	$ 7.50	1580		35	1545	$ 262.50
KCl	$ 17.55	879		63	816	$ 1,105.65
PHPA (Praestol)	$ 120.00	92		2	90	$ 240.00
Sodium Sulphite	$ 39.50	94		4	90	$ 158.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	0.3	
Bentonite	2.5	
Drilled Solids	1.2	
Salt		2.5
n @ 20.00 Hrs	0.52	
K @ 20.00 Hrs	0.90	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	581
HHP	216
HSI	3.8
Bit Press Loss	1084
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.15
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$2,571.15	$72,543.20

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908901 126

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	14	Date :	18-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1338 to 1635		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE	
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Connor	
WELL NAME AND No	Trifon # 1	FIELD	LOCATION	STATE
		PEP 137	Gippsland Basin	Victoria

DRILLING ASSEMBLY		JET SIZE		
SIZE	TYPE	10	12	12
8.50	Varel L114			
DRILL PIPE	TYPE	Length		
SIZE 4.5	16.6 #	1370 Mtrs		
DRILL PIPE	TYPE	Length		
SIZE 4.5	HW	83 Mtrs		
DRILL COLLAR SIZE (")		Length		
6.25		182 Mtrs		

CASING			
13 3/8	SURFACE	856	ft
	SET @	260.9	M
9 5/8	INT.	4042	ft
	SET @	1232	M
	PROD. or		ft
	LNR Set @		M
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)	
HOLE	PITS
360	490
TOTAL CIRCULATING VOL.	
850	
IN STORAGE	

CIRCULATION DATA			
PUMP SIZE		CIRCULATION PRESS (PSI)	1050 psi
6 X 8	Inches		
PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	39 min
GD PZ8	97.0		
BBL/STK	STK / MIN	TOTAL CIRC. TIME (min)	104 min
0.0700	120		
BBL/MIN	GAL / MIN	ANN VEL. DP (ft/min)	161
8.15	342	DCs	253

MUD PROPERTIES

SAMPLE FROM		Pit	Pit	
TIME SAMPLE TAKEN		10.00	23.00	
DEPTH (ft) - (m)	Metres	1,420	1,625	
FLOWLINE TEMPERATURE	°C / °F	38	41	
WEIGHT	ppg / SG	9.20 1.104	9.30 1.116	
FUNNEL VISCOSITY (sec/qt) API @	°C	40	38	
PLASTIC VISCOSITY cP @	°C	12	9	
YIELD POINT (lb/100ft²)		14	11	
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		13	12	
FILTRATE API (cc's/30 min)		7.4	7.2	
HPHT FILTRATE (cc's/30 min) @	°F			
CAKE THICKNESS API : HPHT (32nd in)		1	1	
SOLIDS CONTENT (% by Volume)		3.8	4.6	
LIQUID CONTENT (% by Volume) OIL/WATER		96.2	95.4	
SAND CONTENT (% by Vol.)		Tr	Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		5.0	7.5	
pH		9.0	8.5	
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)		0.15 0.90	0.10 0.85	
CHLORIDE (mg/L)		39,000	37,500	
TOTAL HARDNESS AS CALCIUM (mg/L)		160	200	
SULPHITE (mg/L)		120	140	
K+ (mg/L)		37,288	35,126	
KCl (% by Wt.)		6.9	6.5	
PHPA ppb		0.30	0.40	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Maintaining volume with premixes.

Bringing PHPA concentration up in effort to hinder dispersion of drilled solids. Is also aiding in maintaining reasonable rheology and fluid loss control.

Mud weight creeping up so aiming to control around 9.3 ppg to prevent a more costly dump and dilute regime. All shakers now have exclusively S175 screens.

Rheology: 600:38, 300:26, 200:21, 100:17, 60:12, 30:8, 6:3, 3:2

OPERATIONS SUMMARY

POH Bit change

Make up new bit and RIH.

Wash 20 m to bottom.

Drill ahead. (Tight connection at 1422 m.)

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	280	Desander		INITIAL VOLUME	747
recirc from sump)		Desilter	43		
Drill		Downhole	19	+ FLUID RECEIVED	280
ect Recirc Sump		Dumped	80	-FLUID LOST	177
er (eg Diesel)		Shakers	35	+ FLUID IN STORAGE	
TOTAL RECEIVED	280	TOTAL LOST	177	FINAL VOLUME	850

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	20
Degasser	PB		Desilter	12	20	Shaker #2	3 x 175	20

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.3	11.5	1.50

Product	Price	Start	Received	Used	Close	Cost
IC Pac-R	$ 161.00	137		2	135	$ 322.00
Biocide	$ 140.00	14		2	12	$ 280.00
foamer	$ 125.00	10		2	8	$ 250.00
PA (Praestol)	$ 120.00	90		7	83	$ 840.00
odium Sulphite	$ 39.50	90		6	84	$ 237.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	11.3	
Bentonite	7.5	
Drilled Solids	3.8	
Salt	19.0	6.5
n @ 23.00 Hrs	0.54	
K @ 23.00 Hrs	0.71	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	607
HHP	226
HSI	4.0
Bit Press Loss	1132
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.50
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$1,929.00	$74,472.20

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908901 127

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	15	Date :	19-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1635 to 1871		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE	
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Connor	
WELL NAME AND No	Trifon # 1	FIELD	LOCATION	STATE
		PEP 137	Gippsland Basin	Victoria

DRILLING ASSEMBLY

		JET SIZE		
SIZE	TYPE	10	12	12
9.50	Varel L114			
L PIPE	TYPE	Length		
SIZE 4.5	16.6 #	1606	Mtrs	
RILL PIPE	TYPE	Length		
SIZE 4.5	HW	83	Mtrs	
L COLLAR SIZE (")		Length		
6.25		182	Mtrs	

CASING

13 3/8	SURFACE	856	ft
	SET @	260.9	M
9 5/8	INT.	4042	ft
	SET @	1232	M
	PROD. or LNR Set @		ft / M

MUD TYPE: KCl PHPA Polymer

MUD VOLUME (BBL)

HOLE	PITS
410	520

TOTAL CIRCULATING VOL. 930

IN STORAGE

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1550 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	44 min	BBL/STK	0.0700
STK / MIN	120	TOTAL CIRC. TIME (min)	114 min
BBL/MIN	8.15	GAL / MIN	342
ANN VEL. (ft/min) DP	161	DCs	253

MUD PROPERTIES

	Pit	Pit
SAMPLE FROM		
TIME SAMPLE TAKEN	11.00	23.30
DEPTH (ft) - (m) Metres	1,740	1,865
FLOWLINE TEMPERATURE °C / °F	42	42
WEIGHT ppg SG	9.35 1.122	9.35 1.122
FUNNEL VISCOSITY (sec/qt) API @ °C	36	38
PLASTIC VISCOSITY cP @ °C	11	11
YIELD POINT (lb/100ft²)	9	11
GEL STRENGTHS (lb/100ft²) 10 sec/10 min	1 2	1 3
FILTRATE API (cc's/30 min)	7.8	8.4
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)	1	1
SOLIDS CONTENT (% by Volume)	5.3	5.6
LIQUID CONTENT (% by Volume) OIL/WATER	94.7	94.4
SAND CONTENT (% by Vol.)	Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)	8.0	7.0
pH	9.0	8.5
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)	0.15 0.90	0.05 0.80
CHLORIDE (mg/L)	32,000	27,000
TOTAL HARDNESS AS CALCIUM (mg/L)	480	380
SULPHITE (mg/L)	120	120
K+ (mg/L)	30,262	25,399
KCl (% by Wt.)	5.6	4.7
PHPA ppb	0.50	0.55

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Attempting to keep mud weight at 9.3 ppg, but despite desilter working well and S175 screens being tilted forward considerably, weight continues to increase. However, mud costs are reasonable because treatment costs are low.

Although KCl concentration has dropped, this has been through dilution and not due to depletion of K+.

Rheology: 600:33, 300:22, 200:17, 100:12, 60:9, 30:6, 6:3, 3:2.

OPERATIONS SUMMARY

Drill ahead.

Work tight connections at 1741 m (40 k max over pull) and 1769 m (45 k max over pull)

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	400	Desander		INITIAL VOLUME	850
Recirc from sump)		Desilter	82		
Drill Water		Downhole	3	+ FLUID RECEIVED	400
Direct Recirc Sump		Dumped	200	-FLUID LOST	320
Water (eg Diesel)		Shakers	35	+ FLUID IN STORAGE	
TOTAL RECEIVED	400	TOTAL LOST	320	FINAL VOLUME	930

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	24
Degasser	PB		Desilter	12	24	Shaker #2	3 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.4	12.2	2.40

Product	Price	Start	Received	Used	Close	Cost
Biocide	$ 140.00	12		1	11	$ 140.00
Caustic Soda	$ 32.00	26		2	24	$ 64.00
PHPA (Praestol)	$ 120.00	83		11	72	$ 1,320.00
Soda Ash	$ 27.50	19		6	13	$ 165.00
Sodium Sulphite	$ 39.50	84		5	79	$ 197.50

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	19.0	
Bentonite	7.0	
Drilled Solids	12.0	
Salt	18.0	5.0
n @ 23.30 Hrs	0.58	
K @ 23.30 Hrs	0.57	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	610
HHP	227
HSI	4.0
Bit Press Loss	1138
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.55
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$1,886.50	$76,358.70

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908901 128

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	16	Date :	20-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	1871 to 2060		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Connor
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY

		JET SIZE		
SIZE	TYPE	10	12	12
9.50	Varel L114			
L PIPE	TYPE	Length		
IZE 4.5	16.6 #	1795 Mtrs		
RILL PIPE	TYPE	Length		
4.5	HW	83 Mtrs		
L COLLAR SIZE (")		Length		
6.25		182 Mtrs		

CASING

13 3/8	SURFACE SET @	856	ft
		260.9	M
9 5/8	INT. SET @	4042	ft
		1232	M
	PROD. or LNR Set @		ft
			M

MUD TYPE: KCl PHPA Polymer

MUD VOLUME (BBL)

HOLE	PITS
450	470

TOTAL CIRCULATING VOL. 920

IN STORAGE

CIRCULATION DATA

PUMP SIZE		CIRCULATION PRESS (PSI)	1800 psi
6 X 8	Inches		
PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	49 min
GD PZ8	97.0		
BBL/STK	STK / MIN	TOTAL CIRC. TIME (min)	113 min
0.0700	120		
BBL/MIN	GAL / MIN	ANN VEL. DP	161
8.15	342	(ft/min) DCs	253

MUD PROPERTIES

		Pit	Pit
SAMPLE FROM			
TIME SAMPLE TAKEN		13.30	24.00
DEPTH - (ft) - (m)	Metres	1,960	2,060
FLOWLINE TEMPERATURE	°C / °F	45	47
WEIGHT	ppg / SG	9.45 1.134	9.30 1.116
FUNNEL VISCOSITY (sec/qt) API @	°C	38	36
PLASTIC VISCOSITY cP @	°C	11	10
YIELD POINT (lb/100ft²)		10	8
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		1 2	1 2
FILTRATE API (cc's/30 min)		9	8.5
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		6.6	5.7
LIQUID CONTENT (% by Volume) OIL/WATER		93.4	94.3
SAND CONTENT (% by Vol.)		Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		7.5	6.5
pH		8.5	8.0
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.70	0 0.65
CHLORIDE (mg/L)		23,000	19,500
TOTAL HARDNESS AS CALCIUM (mg/L)		400	380
SULPHITE (mg/L)		100	120
K+ (mg/L)		21,616	18,374
KCl (% by Wt.)		4.0	3.4
PHPA ppb		0.60	0.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Extremely dispersive formations leading to continual mud weight increases.
Consequently, requiring considerable dumping and dilution.
Allowing K+ to drop (due to dilution)
Regaining control over fluid loss now that mud weight has stabilised at 9.2 - 9.3 ppg.
AMC Pac-R lowering fluid loss and increasing yield point.
As a consequence of the dilution, mud costs have increased accordingly.

OPERATIONS SUMMARY

Drill ahead.
Work tight connections at 1881 m, 1890 m, 1909 m, 1947 m (40 k max over pull) and 1960 m (45 k max over pull)

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	400	Desander		INITIAL VOLUME	930
(Per recirc from sump)		Desilter	62		
Drill . ater		Downhole	13	+ FLUID RECEIVED	550
ect Recirc Sump	150	Dumped	450	-FLUID LOST	560
er (eg Diesel)		Shakers	35	+ FLUID IN STORAGE	
TOTAL RECEIVED	550	TOTAL LOST	560	FINAL VOLUME	920

Product	Price	Start	Received	Used	Close	Cost
AC Pac-R	$ 161.00	135		14	121	$ 2,254.00
Biocide	$ 140.00	11		1	10	$ 140.00
stic Soda	$ 32.00	24		2	22	$ 64.00
PA (Praestol)	$ 120.00	72		6	66	$ 720.00
oda Ash	$ 27.50	13		2	11	$ 55.00
odium Sulphite	$ 39.50	79		6	73	$ 237.00

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	24
Degasser	PB		Desilter	12	24	Shaker #2	3 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.4	13.4	1.80

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	18.5	
Bentonite	6.5	
Drilled Solids	10.0	
Salt	12.0	3.4
n @ 24.00 Hrs	0.64	
K @ 24.00 Hrs	0.34	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	607
HHP	226
HSI	4.0
Bit Press Loss	1132
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.50
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$3,470.00	$79,828.70

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903901 129

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	17	Date :	21-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2060 to 2152		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Connor
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE 10	12	12	
8.50	Varel L114				
DL PIPE	TYPE	Length			
SIZE 4.5	16.6 #	1887	Mtrs		
DRILL PIPE	TYPE	Length			
SIZE 4.5	HW	83	Mtrs		
DL COLLAR SIZE (")		Length			
6.25		182	Mtrs		

CASING

13 3/8 SURFACE SET @	856	ft	
	260.9	M	
9 5/8 INT. SET @	4042	ft	
	1232	M	
PROD. or LNR Set @		ft	
		M	
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)

HOLE	PITS
470	430
TOTAL CIRCULATING VOL.	900
IN STORAGE	

CIRCULATION DATA

PUMP SIZE 6 X 8 Inches		CIRCULATION PRESS (PSI)	1800 psi
PUMP MODEL GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min)	51 min
BBL/STK 0.0700	STK / MIN 120	TOTAL CIRC. TIME (min)	110 min
BBL/MIN 8.15	GAL / MIN 342	ANN VEL. (ft/min) DP	161
		DCs	253

MUD PROPERTIES

	Pit	Pit
SAMPLE FROM		
TIME SAMPLE TAKEN		19.30
DEPTH (ft) - (m) Metres		2,152
FLOWLINE TEMPERATURE °C °F		45
WEIGHT ppg / SG		9.40 1.128
FUNNEL VISCOSITY (sec/qt) API @ °C		38
PLASTIC VISCOSITY cP @ °C		14
YIELD POINT (lb/100ft²)		12
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		1 3
FILTRATE API (cc's/30 min)		8.0
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		6.5
LIQUID CONTENT (% by Volume) OIL/WATER		93.5
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		6.0
pH		8.5
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.75
CHLORIDE (mg/L)		18,500
TOTAL HARDNESS AS CALCIUM (mg/L)		340
SULPHITE (mg/L)		100
K+ (mg/L)		17,293
KCl (% by Wt.)		3.2
PHPA ppb		0.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

Maintained mud weight at 9.3 ppg with dilution.

AMC Pac-R added for maintaining fluid loss at 8 cc's or below, and yield point above 12.

OPERATIONS SUMMARY

Drill to 2152 m.
Circulate bottoms up.
Wiper trip to shoe.
Circulate bottoms up.
POH to log.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	160	Desander		INITIAL VOLUME	920
...ir ...circ from sump)		Desilter	30		
Drill W...er		Downhole	20	+ FLUID RECEIVED	210
ect Recirc Sump	50	Dumped	150	-FLUID LOST	230
er (eg Diesel)		Shakers	30	+ FLUID IN STORAGE	
TOTAL RECEIVED	210	TOTAL LOST	230	FINAL VOLUME	900

Product	Price	Start	Received	Used	Close	Cost
IC Pac-R	$ 161.00	121		10	111	$ 1,610.00
Barite	$ 7.50	1545		78	1467	$ 585.00
...cide	$ 140.00	10		1	9	$ 140.00
...stic Soda	$ 32.00	22		2	20	$ 64.00
...oamer	$ 125.00	8		1	7	$ 125.00
PHPA (Praestol)	$ 120.00	66		4	62	$ 480.00
la Ash	$ 27.50	11		4	7	$ 110.00
lium Sulphite	$ 39.50	73		5	68	$ 197.50

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	14
Degasser	PB		Desilter	12	14	Shaker #2	3 x 175	14

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.3	12.5	1.50

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	20.0	
Bentonite	6.0	
Drilled Solids	14.0	
Salt	10.0	3.2
n @ 19.30 Hrs	0.62	
K @ 19.30 Hrs	0.54	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	613
HHP	228
HSI	4.0
Bit Press Loss	1144
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.65
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$3,311.50	$83,140.20

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908901 130

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	18	Date :	22-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2152 to 2152		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	Mick O'Connor
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE 10	12	12	
8.50	Varel L114				
DRILL PIPE	TYPE	Length			
SIZE 4.5	16.6 #	1887	Mtrs		
DRILL PIPE	TYPE	Length			
SIZE 4.5	HW	83	Mtrs		
DRILL COLLAR SIZE (")		Length			
6.25		182	Mtrs		

CASING

13 3/8	SURFACE SET @	856 / 260.9	ft / M
9 5/8	INT. SET @	4042 / 1232	ft / M
	PROD. or LNR Set @		ft / M
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)

HOLE	PITS
470	430
TOTAL CIRCULATING VOL.	900
IN STORAGE	

CIRCULATION DATA

PUMP SIZE: 6 X 8 inches		CIRCULATION PRESS (PSI): psi
PUMP MODEL: GD PZ8	ASSUMED EFF: 97.0	BOTTOMS UP (min): min
BBL/STK: 0.0700	STK MIN	TOTAL CIRC. TIME (min): min
BBL/MIN	GAL MIN	ANN VEL. DP (ft/min) DCs

MUD PROPERTIES

	Pit	Pit
SAMPLE FROM		
TIME SAMPLE TAKEN		
DEPTH (ft) - (m) Metres		
FLOWLINE TEMPERATURE °C °F		
WEIGHT ppg SG		
FUNNEL VISCOSITY (sec/qt) API @ °C		
PLASTIC VISCOSITY cP @ °C		
YIELD POINT (lb/100ft²)		
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		
FILTRATE API (cc's/30 min)		
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)		
SOLIDS CONTENT (% by Volume)		
LIQUID CONTENT (% by Volume) OIL/WATER		
SAND CONTENT (% by Vol.)		
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		
CHLORIDE (mg/L)		
TOTAL HARDNESS AS CALCIUM (mg/L)		
SULPHITE (mg/L)		
K+ (mg/L)		
KCl (% by Wt.)		
PHPA ppb		

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	5%	PHPA	0.5 - 1.0	Sulphites	80 - 120

OBSERVATIONS

In view of poor hole gauge due to extremely dispersive formations, will be increasing PHPA concentration upwards towards 1.5 ppb.

OPERATIONS SUMMARY

Run electric logs.
Rig down.
Make up test tools and RIH.
Conduct DST # 2.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	900
recirc from sump)		Desilter			
Drill Water		Downhole		+ FLUID RECEIVED	
ect Recirc Sump		Dumped		-FLUID LOST	
er (eg Diesel)		Shakers		+ FLUID IN STORAGE	
TOTAL RECEIVED		TOTAL LOST		FINAL VOLUME	900

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	
Degasser	PB		Desilter	12		Shaker #2	3 x 175	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
		Nil usage today				

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids		
Salt		
n @ Hrs		
K @ Hrs		

BIT HYD. PRESS.DATA

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
	$83,140.20

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RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	19	Date :	23-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2152 to 2183		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus
WELL NAME AND No	Trifon # 1	FIELD: PEP 137	LOCATION: Gippsland Basin / STATE: Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE 10	12	12	
8.50	Varel ETD 14MF				
DRILL PIPE	TYPE	Length			
SIZE 4.5	16.6 #	1874	Mtrs		
DRILL PIPE	TYPE	Length			
SIZE 4.5	HW	101	Mtrs		
DRILL COLLAR SIZE (")		Length			
6.25		208	Mtrs		

CASING

13 3/8 SURFACE SET @	856	ft	
	260.9	M	
9 5/8 INT. SET @	4042	ft	
	1232	M	
PROD. or LNR Set @		ft	
		M	
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)

HOLE	PITS
474	450
TOTAL CIRCULATING VOL.	924
IN STORAGE	

CIRCULATION DATA

PUMP SIZE 6 X 8 Inches		CIRCULATION PRESS (PSI)	1580 psi
PUMP MODEL GD PZ8	ASSUMED EFF 97.0	BOTTOMS UP (min)	48 min
BBL/STK 0.0700	STK / MIN 128	TOTAL CIRC. TIME (min)	106 min
BBL/MIN 8.69	GAL / MIN 365	ANN VEL. (ft/min) DP	172
		DC's	269

MUD PROPERTIES

		Pit	Pit
SAMPLE FROM			
TIME SAMPLE TAKEN		20.30	24.00
DEPTH (ft) - (m)	Metres	2,160	2,183
FLOWLINE TEMPERATURE	°C / °F	43	47
WEIGHT	ppg / SG	9.40 1.128	9.30 1.116
FUNNEL VISCOSITY (sec/qt) API @	°C	47	49
PLASTIC VISCOSITY cP @	°C	18	17
YIELD POINT (lb/100ft²)		10	12
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		1 2	1 2
FILTRATE API (cc's/30 min)		7	6.5
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		6.6	5.9
LIQUID CONTENT (% by Volume) OIL/WATER		93.4	94.1
SAND CONTENT (% by Vol.)		0.25	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		7.0	7.0
pH		8.5	8.0
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.70	0 0.65
CHLORIDE (mg/L)		17,000	16,500
TOTAL HARDNESS AS CALCIUM (mg/L)		380	400
SULPHITE (mg/L)		120	120
K+ (mg/L)		16,212	15,672
KCl (% by Wt.)		3.0	2.9
PHPA ppb		0.65	1.00

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

Increasing PHPA concentration to approximately 1.5 ppb as rapidly as the system will allow.

Maintaining pH at slightly lower level of 8.0 to lessen any dispersion effects of higher pH values.

OPERATIONS SUMMARY

Continue with DST # 2.
Pull free, reverse circulate and POH.
Lay down test tools.
Pick up new BHA and RIH.
Wash 19 m to bottom.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	900
[illegible] recirc from sump)	100	Desilter	7		
Drill [illegible]		Downhole	14	+ FLUID RECEIVED	100
ect Recirc Sump		Dumped	40	-FLUID LOST	76
er (eg Diesel)		Shakers	15	+ FLUID IN STORAGE	
TOTAL RECEIVED	100	TOTAL LOST	76	FINAL VOLUME	924

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	7
Degasser	PB		Desilter	12	4	Shaker #2	3 x 175	7

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.3	12.8	1.20

Product	Price	Start	Received	Used	Close	Cost
ite	$ 7.50	1467		40	1427	$ 300.00
PHPA (Praestol)	$ 120.00	62		13	49	$ 1,560.00
odium Sulphite	$ 39.50	68		2	66	$ 79.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	21.0	
Bentonite	7.0	
Drilled Solids	14.0	
Salt	10.0	3.0
n @ 24.00 Hrs	0.67	
K @ 24.00 Hrs	0.46	

BIT HYD. PRESS.DATA

Jet Velocity	393
Impact force	690
HHP	274
HSI	4.8
Bit Press Loss	1288
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.50
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$1,939.00	$85,079.20

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908901 132

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	20	Date :	24-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2183 to 2300		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE	
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus	
WELL NAME AND No	Trifon # 1	FIELD	LOCATION	STATE
		PEP 137	Gippsland Basin	Victoria

DRILLING ASSEMBLY

			JET SIZE		
SIZE	TYPE		10	12	12
8.50	Varel ETD 14MF				
L PIPE	TYPE	Length			
SIZE 4.5	16.6 #	1991 Mtrs			
DRILL PIPE	TYPE	Length			
SIZE 4.5	HW	101 Mtrs			
DL COLLAR SIZE (")		Length			
6.25		208 Mtrs			

CASING

13 3/8 SURFACE	856	ft	
SET @	260.9	M	
9 5/8 INT.	4042	ft	
SET @	1232	M	
PROD. or LNR Set @		ft	
		M	
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)

HOLE	PITS
499	510
TOTAL CIRCULATING VOL.	
1009	
IN STORAGE	

CIRCULATION DATA

PUMP SIZE		CIRCULATION PRESS (PSI)	1300 psi
6 X 8	Inches		
PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	50 min
GD PZ8	97.0		
BBL/STK	STK/MIN	TOTAL CIRC. TIME (min)	114 min
0.0700	130		
BBL/MIN	GAL/MIN	ANN VEL. DP	175
8.83	371	(ft/min) DCs	274

MUD PROPERTIES

		Pit	Pit
SAMPLE FROM			
TIME SAMPLE TAKEN		14.00	24.00
DEPTH (ft) - (m)	Metres	2,240	2,300
FLOWLINE TEMPERATURE	°C / °F	43	48
WEIGHT	ppg SG	9.05 1.086	9.00 1.080
FUNNEL VISCOSITY (sec/qt) API @	°C	47	45
PLASTIC VISCOSITY cP @	°C	15	15
YIELD POINT (lb/100ft²)		14	11
STRENGTHS (lb/100ft²) 10 sec/10 min		1 2	1 2
FILTRATE API (cc's/30 min)		6	5.6
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		4.2	3.8
LIQUID CONTENT (% by Volume) OIL/WATER		95.8	96.2
SAND CONTENT (% by Vol.)		Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		5.0	5.0
pH		9.0	8.5
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.10 0.70	0.05 0.65
CHLORIDE (mg/L)		14,000	15,000
TOTAL HARDNESS AS CALCIUM (mg/L)		240	320
SULPHITE (mg/L)		160	120
K+ (mg/L)		13,510	14,591
KCl (% by Wt.)		2.5	2.7
PHPA ppb		1.40	1.80

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

Rebuild volume after total mud losses. PHPA concentration was increased as this product produced most rapid results in terms of hydration meaning mud could be built more rapidly than if Xanthan Gum or AMC Pac-R were used.

Once circulation was regained, minor seepage losses were still evident but even these tapered off and now losses appear static.

KCl again being added to bring concentration back up to 3% +.

Kwikseal favoured over Enerseal as LCM because of its more diverse size distribution.

OPERATIONS SUMMARY

Drill Ahead.

Work tight connection at 2192. (Loose 60 bbls down hole.)

Drill Ahead and at 2208 encopunter total mud losses (approximately 240 bbls at the time.)

LCM slug was pumped and circulation was regained. Drilling continued.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	924
m (recirc from sump)	400	Desilter	46		
Drill		Downhole	384	+ FLUID RECEIVED	550
ect Recirc Sump	150	Dumped	15	-FLUID LOST	465
er (eg Diesel)		Shakers	20	+ FLUID IN STORAGE	
TOTAL RECEIVED	550	TOTAL LOST	465	FINAL VOLUME	1,009

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	24
Degasser	PB		Desilter	12	20	Shaker #2	3 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.0	11.4	1.60

Product	Price	Start	Received	Used	Close	Cost
stic Soda	$ 32.00	20		2	18	$ 64.00
KCl	$ 17.55	816		48	768	$ 842.40
Kwikseal Fine	$ 50.00	57		41	16	$ 2,050.00
ikseal Medium	$ 50.00	42		2	40	$ 100.00
PA (Praestol)	$ 120.00	49		36	13	$ 4,320.00
odium Sulphite	$ 39.50	66		5	61	$ 197.50

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	15.0	
Bentonite	5.0	
Drilled Solids	10.0	
Salt	9.0	2.7
n @ 24.00 Hrs	0.66	
K @ 24.00 Hrs	0.43	

BIT HYD. PRESS.DATA

Jet Velocity	399
Impact force	689
HHP	278
HSI	4.9
Bit Press Loss	1286
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.20
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$7,573.90	$92,653.10

MN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 133

DRILLING FLUID REPORT

RMN Drilling Fluids

Report #	21	Date :	25-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2300 to 2450		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE		
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus		
WELL NAME AND No	Trifon # 1	FIELD	PEP 137	LOCATION	Gippsland Basin
				STATE	Victoria

DRILLING ASSEMBLY

		JET SIZE		
SIZE	TYPE	10	12	12
8.50	Varel ETD 14MF			
DL PIPE	TYPE	Length		
SIZE 4.5	16.6 #	2141 Mtrs		
DRILL PIPE	TYPE	Length		
SIZE 4.5	HW	101 Mtrs		
DL COLLAR SIZE (")		Length		
6.25		208 Mtrs		

CASING

13 3/8	SURFACE	856	ft
	SET @	260.9	M
9 5/8	INT.	4042	ft
	SET @	1232	M
	PROD. or LNR Set @		ft / M
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)

HOLE	PITS
531	520
TOTAL CIRCULATING VOL.	1051
IN STORAGE	

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1400 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	57 min		
BBL/STK	0.0700	STK MIN	120
TOTAL CIRC. TIME (min)	129 min		
BBL/MIN	8.15	GAL MIN	342
ANN VEL. (ft/min) DP	161	DCs	253

MUD PROPERTIES

	Pit	Pit
SAMPLE FROM		
TIME SAMPLE TAKEN	12.00	24.00
DEPTH (ft) - (m) Metres	2,388	2,450
FLOWLINE TEMPERATURE °C / °F	46	47
WEIGHT ppg / SG	8.95 1.074	9.10 1.092
FUNNEL VISCOSITY (sec/qt) API @ °C	41	40
PLASTIC VISCOSITY cP @ °C	13	12
YIELD POINT (lb/100ft²)	11	11
GEL STRENGTHS (lb/100ft²) 10 sec/10 min	1 2	1 2
FILTRATE API (cc's/30 min)	6	7.5
HPHT FILTRATE (cc's/30 min) @ °F		
CAKE THICKNESS API : HPHT (32nd in)	1	1
SOLIDS CONTENT (% by Volume)	3.3	4.4
LIQUID CONTENT (% by Volume) OIL/WATER	96.7	95.6
SAND CONTENT (% by Vol.)	Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)	5.0	4.0
pH	8.5	8.5
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)	0.05 0.65	0.05 0.65
CHLORIDE (mg/L)	18,000	17,500
TOTAL HARDNESS AS CALCIUM (mg/L)	300	320
SULPHITE (mg/L)	120	140
K+ (mg/L)	17,293	16,752
KCl (% by Wt.)	3.2	3.1
PHPA ppb	1.70	1.70

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

Ongoing seepage losses throughout this period, with a more rapid loss at 2427 m necessitating the building of another LCM pill. Only half of this pill was pumped.
Dropping yield point requiring Xantemp to prop it up, although will still try to maintain it around 12 lb 100 ft² to minimise ECD.
Re-introducing AMC Pac-R to control fluid loss.

OPERATIONS SUMMARY

Drill ahead.
(Rapid yet partial loss of 35 bbl at 2427 m.)

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1009
Premix (recirc from sump)	250	Desilter	27		
Drill Water		Downhole	136	+ FLUID RECEIVED	250
Direct Recirc Sump		Dumped	20	-FLUID LOST	208
Water (eg Diesel)		Shakers	25	+ FLUID IN STORAGE	
TOTAL RECEIVED	250	TOTAL LOST	208	FINAL VOLUME	1,051

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	24
Degasser	PB		Desilter	12	24	Shaker #2	3 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.1	12.4	0.80

Product	Price	Start	Received	Used	Close	Cost
Biocide	$ 140.00	9		1	8	$ 140.00
Caustic Soda	$ 32.00	18		1	17	$ 32.00
Coarseal Fine	$ 52.00	101		7	94	$ 364.00
Gel	$ 17.55	768		96	672	$ 1,684.80
Lubrikseal Fine	$ 50.00	16		13	3	$ 650.00
PHPA (Praestol)	$ 120.00	13		10	3	$ 1,200.00
Sodium Sulphite	$ 39.50	61		9	52	$ 355.50
Xantemp	$ 535.00	46		2	44	$ 1,070.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	21.0	
Bentonite	4.0	
Drilled Solids	17.0	
Salt	10.0	3.1
n @ 24.00 Hrs	0.61	
K @ 24.00 Hrs	0.53	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	594
HHP	221
HSI	3.9
Bit Press Loss	1108
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.30
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$5,496.30	$98,149.40

MUD ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 134

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	22	Date :	26-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2450 to 2550		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE		
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus		
WELL NAME AND No	Trifon # 1	FIELD	PEP 137	LOCATION	Gippsland Basin
				STATE	Victoria

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)	
SIZE	TYPE	10	12	12	13 3/8 SURFACE	856	ft	HOLE	PITS
12.50	Varel ETD 14MF				SET @	260.9	M	552	500
DRILL PIPE	TYPE	Length			9 5/8 INT.	4042	ft	TOTAL CIRCULATING VOL.	
SIZE 4.5	16.6 #		2241	Mtrs	SET @	1232	M	1052	
DRILL PIPE	TYPE	Length			PROD. or		ft	IN STORAGE	
SIZE 4.5	HW		101	Mtrs	LNR Set @		M		
DRILL COLLAR SIZE (")		Length			MUD TYPE				
6.25		208		Mtrs	KCl PHPA Polymer				

CIRCULATION DATA					
PUMP SIZE		CIRCULATION PRESS (PSI)	1500	psi	
6 X 8	Inches				
PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	60	min	
GD PZ8	97.0				
BBL/STK	STK/MIN	TOTAL CIRC. TIME (min)	129	min	
0.0700	120				
BBL/MIN	GAL/MIN	ANN VEL. (ft/min)	DP	161	
8.15	342		DCs	253	

MUD PROPERTIES

		Pit	Pit
SAMPLE FROM			
TIME SAMPLE TAKEN		12.00	23.30
DEPTH (ft) - (m)	Metres	2,500	2,548
FLOWLINE TEMPERATURE	°C / °F	48	48
WEIGHT	ppg / SG	9.10 1.092	9.00 1.080
FUNNEL VISCOSITY (sec/qt) API @	°C	41	38
PLASTIC VISCOSITY cP @	°C	10	9
YIELD POINT (lb/100ft²)		10	10
STRENGTHS (lb/100ft²) 10 sec/10 min		1 2	1 2
FILTRATE API (cc's/30 min)		7.2	6.4
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)		1	1
SOLIDS CONTENT (% by Volume)		4.4	3.9
LIQUID CONTENT (% by Volume) OIL/WATER		95.6	96.1
SAND CONTENT (% by Vol.)		Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		4.5	4.0
pH		8.5	8.5
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.05 0.70	0.05 0.65
CHLORIDE (mg/L)		17,000	14,000
TOTAL HARDNESS AS CALCIUM (mg/L)		350	300
SULPHITE (mg/L)		80	80
K+ (mg/L)		16,212	13,510
KCl (% by Wt.)		3.0	2.5
PHPA ppb		1.65	1.50

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

Seepage losses still ongoing - addition of lcm not thought to be cost efficient - it is not likely that Enerseal or Kwikseal would significantly appease these losses.

Aditionally, the addition of premixes is keeping the mud weight down.

PHPA stocks are now nil due to unforseen demand and logistical impossibilities.

OPERATIONS SUMMARY

Drill ahead.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	200	Desander		INITIAL VOLUME	1051
recirc (recirc from sump)	100	Desilter	38		
Drill		Downhole	196	+ FLUID RECEIVED	300
Direct Recirc Sump		Dumped	40	- FLUID LOST	299
Other (eg Diesel)		Shakers	25	+ FLUID IN STORAGE	
TOTAL RECEIVED	300	TOTAL LOST	299	FINAL VOLUME	1,052

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	24
Degasser	PB		Desilter	12	22	Shaker #2	3 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.0	11.8	1.20

Product	Price	Start	Received	Used	Close	Cost
C Pac-R	$ 161.00	111		14	97	$ 2,254.00
Caustic Soda	$ 32.00	17		1	16	$ 32.00
Foamer	$ 125.00	7		1	6	$ 125.00
PA (Praestol)	$ 120.00	3		3		$ 360.00
Soua Ash	$ 27.50	7		6	1	$ 165.00
Sodium Sulphite	$ 39.50	52		8	44	$ 316.00
Gitemp	$ 535.00	44		7	37	$ 3,745.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	18.5	
Bentonite	4.0	
Drilled Solids	14.5	
Salt	8.5	2.5
pm @ 23.30 Hrs	0.56	
pK @ 23.30 Hrs	0.58	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	587
HHP	219
HSI	3.8
Bit Press Loss	1096
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.20
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$6,997.00	$105,146.40

MUD ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 135

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	23	Date :	27-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2550 to 2570		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus
WELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY

SIZE	TYPE	JET SIZE 10	12	12
12.50	Varel ETD 14MF			
L PIPE	TYPE	Length		
SIZE 4.5	16.6 #	2261 Mtrs		
HILL PIPE	TYPE	Length		
SIZE 4.5	HW	101 Mtrs		
L COLLAR SIZE (")		Length		
6.25		208 Mtrs		

CASING

13 3/8	SURFACE	856	ft
	SET @	260.9	M
9 5/8	INT.	4042	ft
	SET @	1232	M
	PROD. or LNR Set @		ft / M
MUD TYPE	KCl PHPA Polymer		

MUD VOLUME (BBL)

HOLE	PITS
556	400

TOTAL CIRCULATING VOL. 956

IN STORAGE

CIRCULATION DATA

PUMP SIZE	6 X 8 Inches	CIRCULATION PRESS (PSI)	1500 psi
PUMP MODEL	GD PZ8	ASSUMED EFF	97.0
BOTTOMS UP (min)	60 min	BBL/STK	0.0700
STK/MIN	120	TOTAL CIRC. TIME (min)	117 min
BBL/MIN	8.15	GAL/MIN	342
ANN VEL. (ft/min) DP	161	DCs	253

MUD PROPERTIES

		Pit	Pit
SAMPLE FROM			
TIME SAMPLE TAKEN			14.00
DEPTH (ft) - (m)	Metres		2,570
FLOWLINE TEMPERATURE	°C / °F		
WEIGHT	ppg SG		9.10 1.092
FUNNEL VISCOSITY (sec/qt) API @	°C		34
PLASTIC VISCOSITY cP @	°C		9
YIELD POINT (lb/100ft²)			9
GEL STRENGTHS (lb/100ft²) 10 sec/10 min			1 2
FILTRATE API (cc's/30 min)			7.2
HPHT FILTRATE (cc's/30 min) @	°F		
CAKE THICKNESS API : HPHT (32nd in)			1
SOLIDS CONTENT (% by Volume)			4.6
LIQUID CONTENT (% by Volume) OIL/WATER			95.4
SAND CONTENT (% by Vol.)			Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			4.0
pH			8.5
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.65
CHLORIDE (mg/L)			14,000
TOTAL HARDNESS AS CALCIUM (mg/L)			280
SULPHITE (mg/L)			100
K+ (mg/L)			13,510
KCl (% by Wt.)			2.5
PHPA ppb			1.40

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

Seepage losses still ongoing.

Lost mud down hole while POH also.

OPERATIONS SUMMARY

Drill to 2570 m. Pressure loss so POH wet.

Jars parted.

Rig up Electric Loggers and log.

Make up test tools.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	100	Desander		INITIAL VOLUME	1052
...ecirc from sump)		Desilter	9		
...rill ...		Downhole	157	+ FLUID RECEIVED	100
ect Recirc Sump		Dumped	20	- FLUID LOST	196
...er (eg Diesel)		Shakers	10	+ FLUID IN STORAGE	
TOTAL RECEIVED	100	TOTAL LOST	196	FINAL VOLUME	956

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	8
Degasser	PB		Desilter	12	8	Shaker #2	3 x 175	8

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter	9.1	11.3	0.80

Product	Price	Start	Received	Used	Close	Cost
...stic Soda	$ 32.00	16		3	13	$ 96.00
...efoamer	$ 125.00	6		3	3	$ 375.00
...l	$ 17.55	672		48	624	$ 842.40
...e	$ 12.00	53		3	50	$ 36.00
...dium Sulphite	$ 39.50	44		1	43	$ 39.50
...antemp	$ 535.00	37		7	30	$ 3,745.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS	21.0	
Bentonite	4.0	
Drilled Solids	17.0	
Salt	8.5	2.5
n @ 14.00 Hrs	0.58	
K @ 14.00 Hrs	0.47	

BIT HYD. PRESS.DATA

Jet Velocity	368
Impact force	594
HHP	221
HSI	3.9
Bit Press Loss	1108
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	9.25
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$5,133.90	$110,280.30

MAIN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

908901 136

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	24	Date :	28-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2570 to 2570		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE	
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus	
WELL NAME AND No	Trifon # 1	FIELD	LOCATION	STATE
		PEP 137	Gippsland Basin	Victoria

DRILLING ASSEMBLY			JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA		
SIZE	TYPE					13 3/8 SURFACE	856	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)
8.50						SET @	260.9	M	556	250	6 X 8 Inches		psi
L PIPE	TYPE	Length				9 5/8 INT.	4042	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)
SIZE 4.5	16.6 #	2261	Mtrs			SET @	1232	M	806		GD PZ8	97.0	min
DRILL PIPE	TYPE	Length				PROD. or		ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC. TIME (min)
SIZE 4.5	HW	101	Mtrs			LNR Set @		M			0.0700		min
DL COLLAR SIZE (")		Length				MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP (ft/min) DC's
6.25		208	Mtrs			KCl PHPA Polymer							

MUD PROPERTIES		
SAMPLE FROM	Pit	Pit
TIME SAMPLE TAKEN		
DEPTH (ft) - (m) Metres		
FLOWLINE TEMPERATURE ^0C ^0F		
WEIGHT ppg SG		
FUNNEL VISCOSITY (sec/qt) API @ ^0C		
PLASTIC VISCOSITY cP @ ^0C		
YIELD POINT ($lb/100ft^2$)		
STRENGTHS ($lb/100ft^2$) 10 sec/10 min		
FILTRATE API (cc's/30 min)		
HPHT FILTRATE (cc's/30 min) @ ^0F		
CAKE THICKNESS API : HPHT (32nd in)		
SOLIDS CONTENT (% by Volume)		
LIQUID CONTENT (% by Volume) OIL/WATER		
SAND CONTENT (% by Vol.)		
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		
CHLORIDE (mg/L)		
TOTAL HARDNESS AS CALCIUM (mg/L)		
SULPHITE (mg/L)		
K+ (mg/L)		
KCl (% by Wt.)		
PHPA ppb		

MUD PROPERTY SPECIFICATIONS					
Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

Dumped and cleaned out sand trap.

OPERATIONS SUMMARY

Make up test tools.
RIH with same.
Conduct DST # 3.
Reset and conduct DST # 4.
Drop bar and reverse circulate.
Pump pill and POH.

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)	65	Desander		INITIAL VOLUME	956
m[illegible]recirc from sump)		Desilter			
Drill		Downhole	165	+ FLUID RECEIVED	65
ect Recirc Sump		Dumped	40	-FLUID LOST	215
er (eg Diesel)		Shakers	10	+ FLUID IN STORAGE	
TOTAL RECEIVED	65	TOTAL LOST	215	FINAL VOLUME	806

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	
Degasser	PB		Desilter	12		Shaker #2	3 x 175	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
ite	$ 7.50	1427		30	1397	$ 225.00

SOLIDS ANALYSIS	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids		
Salt		
n @ Hrs		
K @ Hrs		

BIT HYD. PRESS.DATA	
Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$225.00	$110,505.30

IN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

908901 137

RMN Drilling Fluids

DRILLING FLUID REPORT

Report #	25	Date :	29-Dec-2000
Rig No	30	Spud :	5-Dec-2000
Depth	2570 to 2570		Metres

OPERATOR	Lakes Oil	CONTRACTOR	ODE
REPORT FOR	Brent Speechley	REPORT FOR	John Greydanus
ELL NAME AND No	Trifon # 1	FIELD	PEP 137
LOCATION	Gippsland Basin	STATE	Victoria

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA		
SIZE	TYPE		13 3/8 SURFACE	856	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)
4.50			SET @	260.9	M	556	175	6 X 8	Inches	psi
L PIPE	TYPE	Length	9 5/8 INT.	4042	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)
IZE 4.5	16.6 #	2261 Mtrs	SET @	1232	M	731		GD PZ8	97.0	min
RILL PIPE	TYPE	Length	PROD. or		ft	IN STORAGE		BBL/STK	STK/MIN	TOTAL CIRC. TIME (min)
4.5	HW	101 Mtrs	LNR Set @		M			0.0700		min
L COLLAR SIZE (")		Length	MUD TYPE					BBL/MIN	GAL/MIN	ANN VEL. DP (ft/min) DCs
6.25		208 Mtrs	KCl PHPA Polymer							

MUD PROPERTIES

	Pit	Pit
SAMPLE FROM		
TIME SAMPLE TAKEN		
DEPTH (ft) - (m) Metres		
FLOWLINE TEMPERATURE ^{0}C ^{0}F		
WEIGHT ppg SG		
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		
PLASTIC VISCOSITY cP @ ^{0}C		
LD POINT (lb/100ft^2)		
STRENGTHS (lb/100ft^2) 10 sec/10 min		
FILTRATE API (cc's/30 min)		
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		
SOLIDS CONTENT (% by Volume)		
LIQUID CONTENT (% by Volume) OIL/WATER		
SAND CONTENT (% by Vol.)		
METHYLENE BLUE CAPACITY (ppb equiv.)		
pH		
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		
CHLORIDE (mg/L)		
TOTAL HARDNESS AS CALCIUM (mg/L)		
SULPHITE (mg/L)		
K+ (mg/L)		
KCl (% by Wt.)		
PHPA ppb		

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.5 - 9.2	API Filtrate	6 - 8	HPHT Filtrate	
Plastic Vis	Min	Yield Point	12 - 18	pH	8.0 - 8.5
KCl	3 - 5%	PHPA	=> 1.5 ppb	Sulphites	80 - 120

OBSERVATIONS

OPERATIONS SUMMARY

POH
Lay down Test tools
RIH open ended.
Circulate and P&A

MUD ACCOUNTING (BBLS)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
mix (drill water)		Desander		INITIAL VOLUME	806
ecirc from sump)		Desilter			
rill Water		Downhole	75	+ FLUID RECEIVED	
ect Recirc Sump		Dumped		-FLUID LOST	75
er (eg Diesel)		Shakers		+ FLUID IN STORAGE	
TOTAL RECEIVED		TOTAL LOST	75	FINAL VOLUME	731

SOLIDS CONTROL EQUIPMENT

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	3 x 175	1
Degasser	PB		Desilter	12		Shaker #2	3 x 175	1

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander		0	
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
cide	$ 140.00	8		2	6	$ 280.00

SOLIDS ANALYSIS

	PPB	%
High Grav solids		
Total LGS		
Bentonite		
Drilled Solids		
Salt		
n @ Hrs		
K @ Hrs		

BIT HYD. PRESS.DATA

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2800
Equiv. Mud Wt.	13.3
ECD	
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$280.00	$110,785.30

N ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

APPENDIX 6

WELL LOCATION SURVEY

051 446591

908901 140

KLUGE JACKSON CONSULTANTS PTY. LTD.

A.C.N. 004 778 947

SURVEYORS, ENGINEERS AND ESTATE PLANNERS

Office: Sale
Our Ref: 01045-02

DIRECTORS:
H. Peter Kluge
John Jackson

July 28th, 2001

TABLE OF SURVEY RESULTS

	Gangell - 1	Trifon - 1
AHD Level of Top of Plate	35.33	24.12
AMG Co-ordinate of Centre of steel rod.	Easting 517 204.74 Northing 5 759 221.30	Easting 516 753.18 Northing 5 760 387.27
Latitude	S 38°18'53.3438"	S 38°18'15.54536"
Longitude	E 147°11'48.4916"	E 147°11'29.79691"
Approximate AHD surface Level at Bore	35.0	24.5
Approximate AHD Level of Pad	35.3	24.7

Note: Table amended 28/07/2001 to include approximate pad level and surface level beside bore.

The AMG coordinates shown above are for Zone 55.

Coordinates are in AGD 66.

SALE
45 Macalister Street,
SALE, Vic 3850
(P.O. Box 47)
Telephone (03) 5144 3877
Facsimile (03) 5144 6591

MAFFRA
119 Johnson Street,
MAFFRA Vic 3860

Telephone (03) 5147 2126

TRARALGON
Suite 3/29 Breed Street,
TRARALGON Vic 3844
(P.O. Box 412)

Telephone (03) 5174 4808
Facsimile (03) 5174 6969

APPENDIX 7

DRILL STEM TEST REPORTS

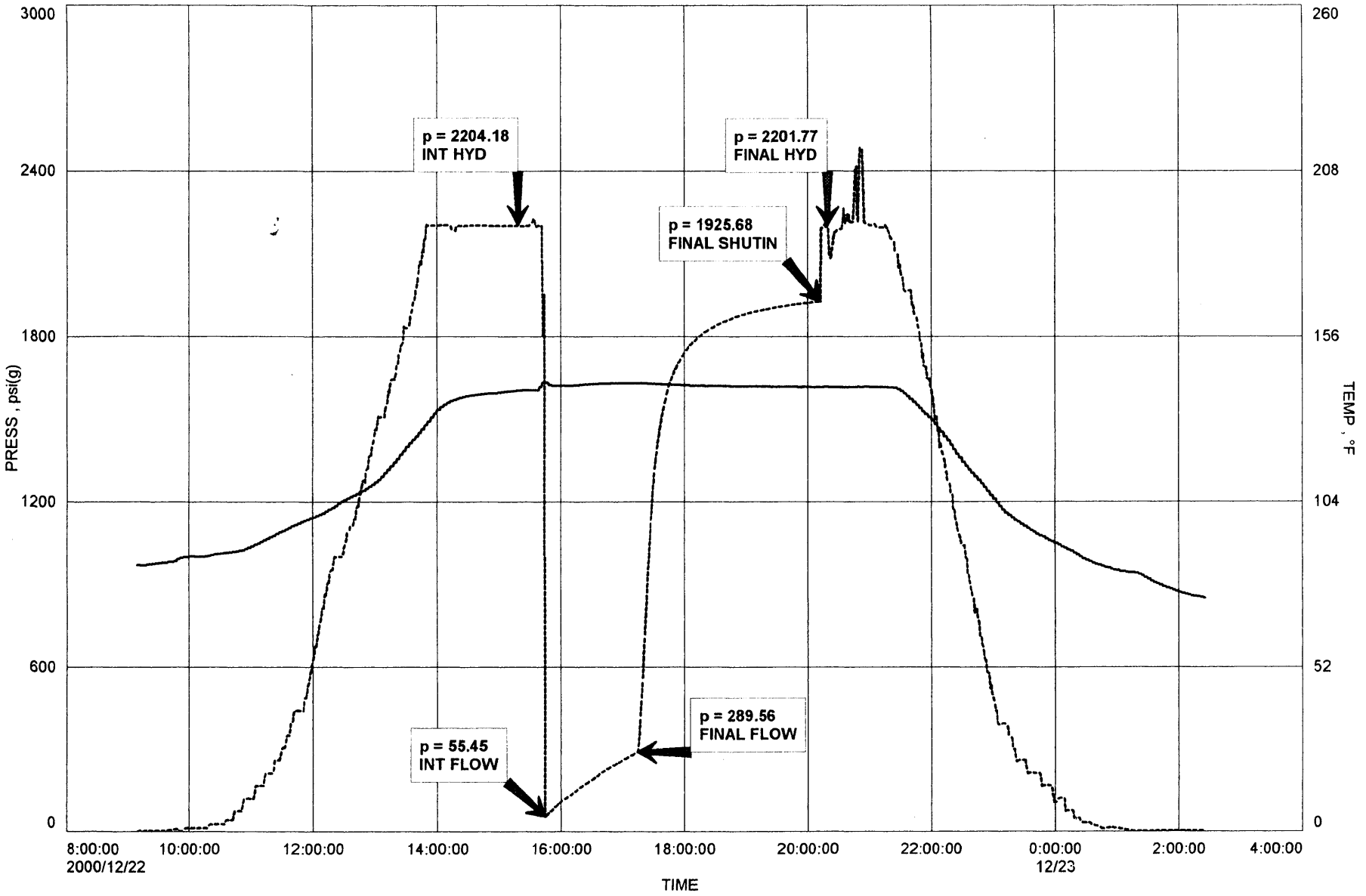
by

AUSTRALIAN DST

LAKES OIL N.L.
INSIDE E.M.P. 1380.43 M
Start Test Date: 2000/12/22

TRIFON # 1
Job Number: TWO

TRIFON # 1



Dec-00 Ver 2.239

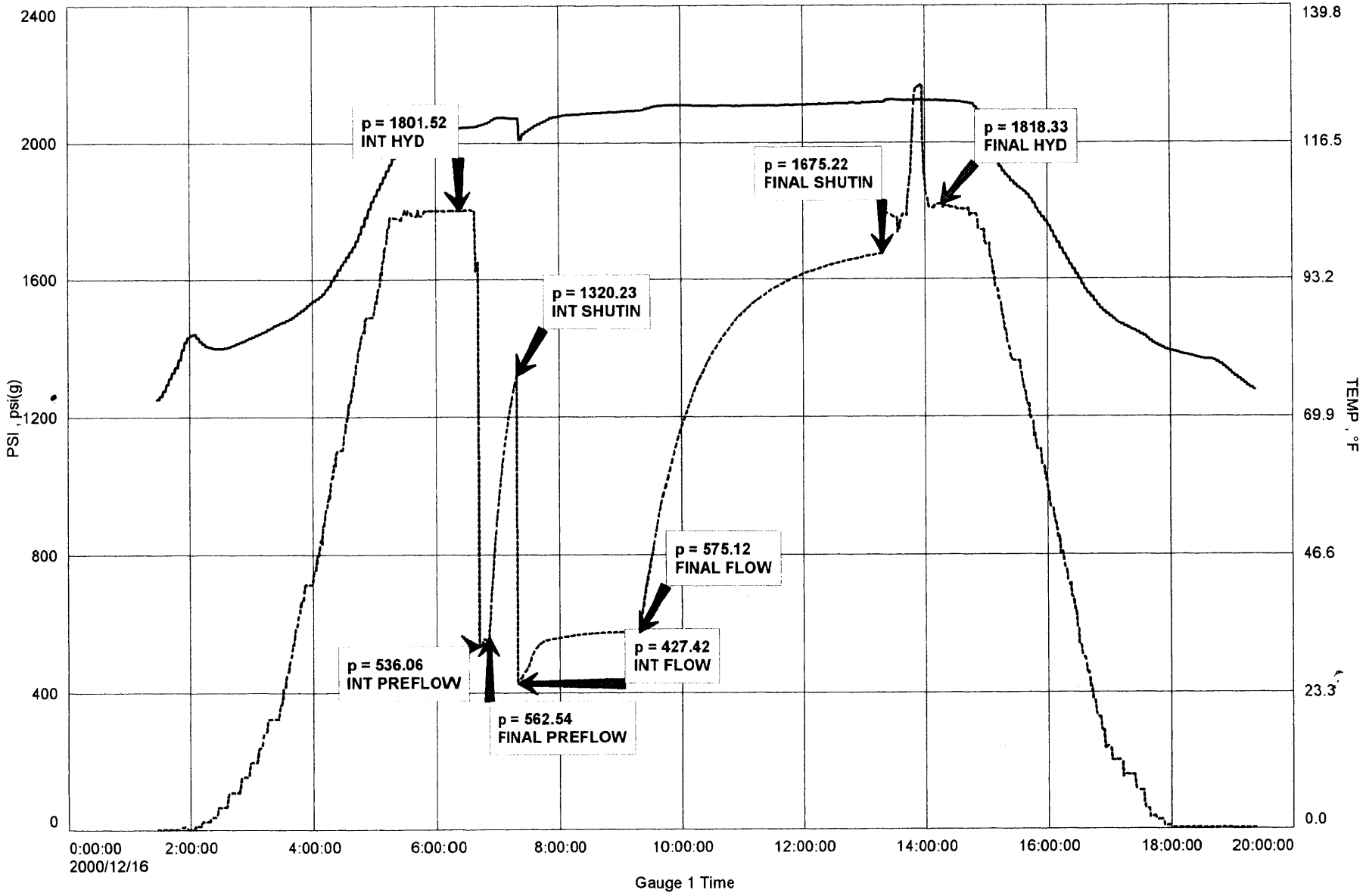
Fast

908901 143

LAKES OIL N.L.
INSIDE 1202.87 M
Start Test Date: 2000/12/16

TRIFON # 1
Job Number: DST 1

TRIFON # 1



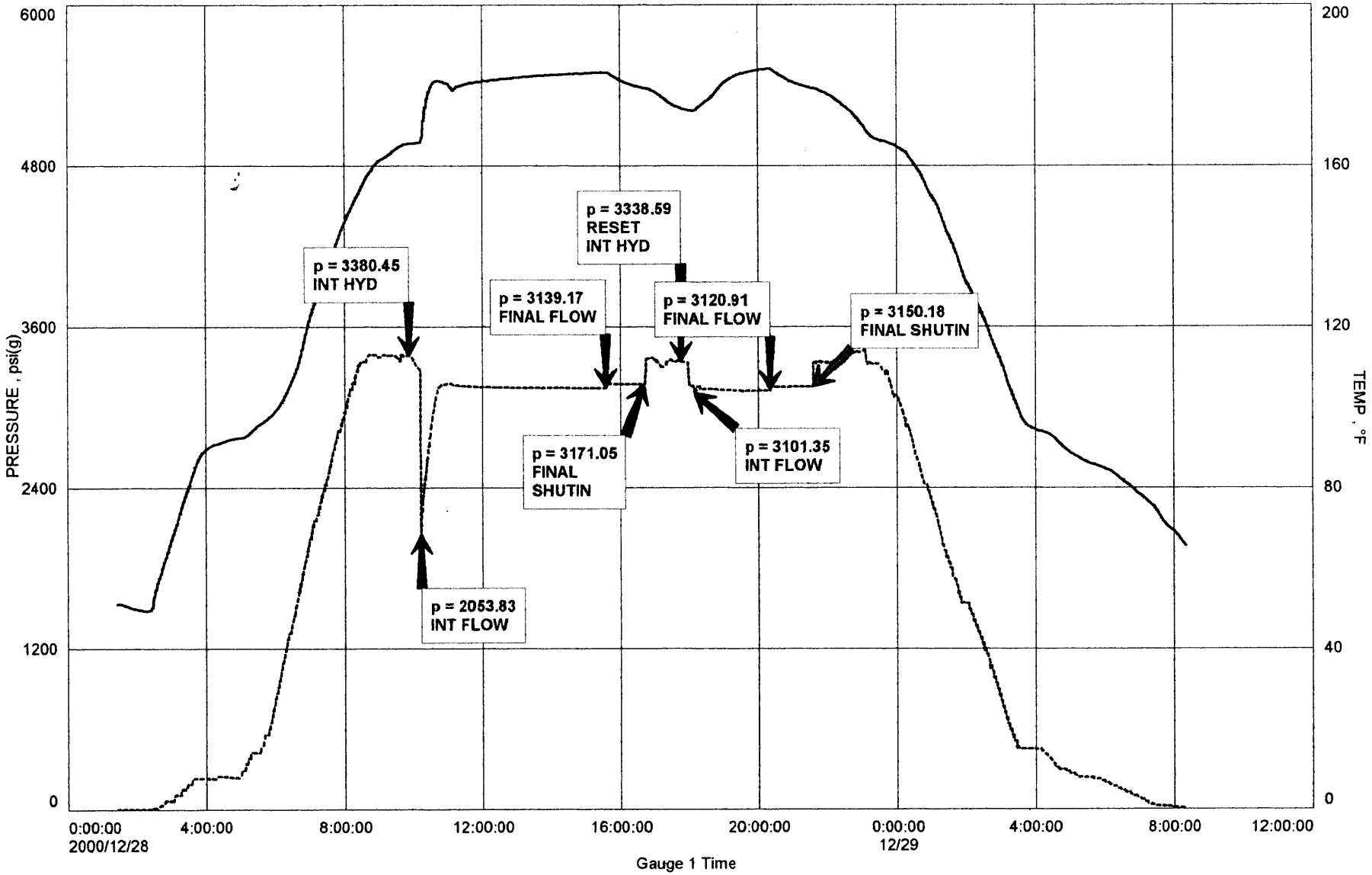
17-Dec-00 Ver 2.239

Fast

LAKES OIL N.L.
INSIDE
Start Test Date: 2000/12/28
Final Test Date: 2000/12/29

TRIFON # 1
Job Number: DST 3 / RESET 1

TRIFON # 1



29-Dec-00 Ver 2.239

Fast

9038901 145

908901 146

LAKES OIL N.L.

DRILL STEM TEST REPORT

Well : TRIFON - 1 **DST No. :** 3 **Date :** 28/12/2000

Test Interval : 2185 - 2215 **Formation :** Strezelecki

Water Cushion : - **Rw (water cushion) :** ohm/m @ °F

Open Hole : X **Cased Hole :** **Rw (make-up water) :** ohm/m @ °F

Type test : Inflate straddle - Australian DST

REMARKS

Time	Remarks/Pressures	Time	Remarks/Pressures
0	Open test tool for 262 minute initial flow – Moderate air blow – Gas / Mud / Water to surface after 39 minutes – At end of flow Gas @ RTSTM & water @ 900 bbl/day.	262	Shut in tool for 69 minute final shut-in.

Surface Flow Information Summary

Choke (ins)	GTS / FTS (min)	Flowing Time (min)	Pressure (psig)	Final Rate Gas (Mcfd)	Final Rate Oil / Water (BPD)	Field Analysis Gas	Oil API / Pour Pt
	39	262		RTSTM	Water @ 900	98 / 2 / Tr	-

Recovery

Reverse Circulated Re-set for DST#4 on same run in hole.

Fluid Chemistry		Make-up Water	Last Mud Check	Flare line water	
Density	S.G.		1.09		
Viscosity	sec/qt		34		
API Filtrate	cc/30 min		7.2		
pH	strip		8.5		
Pf / Mf		/	0.05 / 0.65		
Chlorides	mg/l		14000	12000	
Total Hardness	mg/l Ca		280		
KCl	%		2.5		
Restivity	**ohmm/m**	@ °F	@ °F	@ °F	@ °F

Pressure Recorder Data

	Bottom (outside)	Battery (inside)	Middle (inside)	Top (fluid)		Elapsed Time (min)
Depth	2188	2175	2177	2169	m	
Initial Hydrostatic Pressure		3380	3380		psig	
1st Flow - Initial Pressure		2054	2053		psig	
1st Flow - Final Pressure		3139	3140		psig	262
1st Flow - Shut-in Pressure		3171	3178	3055	psig	325
2nd Flow - Initial Pressure					psig	
2nd Flow - Final Pressure					psig	
2nd Flow - Shut-in Pressure					psig	
Final Hydrostatic Pressure					psig	
Final Bottom-hole Temperature		184			°F	

Samples Taken

Gas : Oil : Condensate : Water : 1 Dissolved HC

Sent to :

APPENDIX 8

GAS & WATER ANALYSIS

Amdel Limited
A.C.N. 008 127 802

Petroleum Services
PO Box 338
Torrensville Plaza SA 5031

Telephone: (08) 8416 5240
Fax: (08) 8234 2933

8 February 2001

Lakes Oil NL
PO Box 300
Collins Street West
MELBOURNE VIC 8007

Attention: Jack Mulready

REPORT LQ9737

CLIENT REFERENCE: -

WELL NAME/RE: Trifon-1 DST-1

MATERIAL: Natural gas

WORK REQUIRED: Gas composition

AUTHOR'S NAME: Diane Cass

Please direct technical enquiries regarding this work, to the signatory below, under whose supervision the work was carried out. This report relates specifically to the sample or samples submitted for testing.

Brian L Watson
Manager
Petroleum Services

bw.cm

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amdel 908901 150

PETROLEUM SERVICES GAS ANALYSIS

Method GL-01-01 ASTM D 1945-91 (modified)

Client: LAKES OIL N.L Report # LQ9737

Sample: TRIFON-1
DST-1, Strzelecki Fm, 1206-1274m
500 psi, 15°C
17/12/00, 0600 h, Cyl #477

GAS	MOL %
Nitrogen	0.73
Carbon Dioxide	0.00
Methane	96.56
Ethane	1.87
Propane	0.55
I-Butane	0.08
N-Butane	0.11
I-Pentane	0.02
N-Pentane	0.02
Hexanes	0.03
Heptanes	0.02
Octanes and higher h'cs	0.01
Total	100.00

(0.00 = less than 0.01%)

The above results are calculated on an air and water free basis assuming only the measured constituents are present
The following parameters are calculated from the above composition at 15°C and 101.325 kPa (abs)

Average Molecular Weight	16.70
Lower Flammability limit	4.90
Upper Flammability limit	14.98
Ratio of upper to lower	3.06
Wobbe Index	50.78
Compressibility Factor	0.9979
Ideal Gas Density (Rel to air = 1)	0.577
Real gas Density (Rel to air = 1)	0.577
Ideal Nett Calorific Value MJ/m^3	34.75
Ideal Gross Calorific Value MJ/m^3	38.56
Real Nett Calorific Value MJ/m^3	34.82
Real Gross Calorific Value MJ/m^3	38.64
Gross calorific value of water-saturated gas MJ/m^3	37.88

This report relates specifically to the sample submitted for analysis.

Approved Signatory Diane Cass

Accreditation No. 2013
Date : 02-01-01

amdel 908901 151

PETROLEUM SERVICES GAS ANALYSIS

Method GL-01-01 ASTM D 1945-91 (modified)

Client: LAKES OIL N.L Report # LQ9737

Sample: GANGELL-1
DST-3
48 psi @ 25°C
19/01/01, 1030h Cyl# 323

GAS	MOL %
Nitrogen	1.40
Carbon Dioxide	0.00
Methane	96.15
Ethane	1.63
Propane	0.51
I-Butane	0.08
N-Butane	0.10
I-Pentane	0.02
N-Pentane	0.02
Hexanes	0.04
Heptanes	0.03
Octanes and higher h'cs	0.02
Total	100.00

(0.00 = less than 0.01%)

The above results are calculated on an air and water free basis assuming only the measured constituents are present
The following parameters are calculated from the above composition at 15°C and 101.325 kPa (abs)

Average Molecular Weight	16.75
Lower Flammability limit	4.94
Upper Flammability limit	15.09
Ratio of upper to lower	3.05
Wobbe Index	50.29
Compressibility Factor	0.9980
Ideal Gas Density (Rel to air = 1)	0.578
Real gas Density (Rel to air = 1)	0.579
Ideal Nett Calorific Value MJ/m^3	34.46
Ideal Gross Calorific Value MJ/m^3	38.24
Real Nett Calorific Value MJ/m^3	34.54
Real Gross Calorific Value MJ/m^3	38.32
Gross calorific value of water-saturated gas MJ/m^3	37.57

This report relates specifically to the sample submitted for analysis.

Approved Signatory Diane Cass

Accreditation No. 2013
Date : 07-02-01

Amdel Limited
A.C.N. 008 127 802

Petroleum Services
PO Box 338
Torrensville Plaza SA 5031

Telephone: (08) 8416 5240
Fax: (08) 8234 2933

31 January 2001

Lakes Oil NL
PO Box 300
Collin Street West
MELBOURNE VIC 8007

Attention: Jack Mulready

REPORT LQ9761

CLIENT REFERENCE: Request

WELL NAME/RE: Trifon-1

MATERIAL: Water sample

WORK REQUIRED: Water analysis

AUTHOR'S NAME: Jason Mitchell

Please direct technical enquiries regarding this work, to the signatory below, under whose supervision the work was carried out. This report relates specifically to the sample or samples submitted for testing.

Brian L Watson
Manager
Petroleum Services

bw.cm

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Petroleum Services

908901 153

TABLE 1 - WATER ANALYSIS

JOB NUMBER: LQ9761

WELL / ID: TRIFON-1, DST-2
SAMPLE TYPE: Water
SAMPLE POINT: Sample Chamber
DATE COLLECTED:
DATE RECEIVED: 05/01/01

FORMATION: Strezlecki Fm
INTERVAL:
COLLECTED BY: Client

PROPERTIES:

pH (measured) = 6.8
Resistivity (Ohm.M @ 25°C) = 0.29
Electrical Conductivity (µS/cm @ 25°C) = 34600
Specific Gravity (S.G. @ 20°C) = na
Measured Total Dissolved Solids(Evap@180°C) mg/L = na
Measured Total Suspended Solids mg/L = na

CHEMICAL COMPOSITION

CATIONS		mg/L	meq/L	ANIONS		mg/L	meq/L
Ammonium	as NH_4	na	na	Bromide	as Br	na	na
Potassium	as K	4140	105.88	Chloride	as Cl	14249	401.38
Sodium	as Na	3594	156.33	Fluoride	as F	na	na
Barium	as Ba	na	na	Hydroxide	as OH	nd	nd
Calcium	as Ca	2612	140.31	Nitrite	as NO_2	na	na
Iron	as Fe	na	na	Nitrate	as NO_3	5	0.08
Magnesium	as Mg	nd	nd	Sulphide	as S	na	na
Strontium	as Sr	na	na	Bicarbonate	as HCO_3	320	5.25
Boron	as B	na	na	Carbonate	as CO_3	nd	nd
				Sulphite	as SO_3	na	na
				Sulphate	as SO_4	570	11.87
Total Cations		10346	402.52	**Total Anions**		15144.1	418.58

DERIVED PARAMETERS

a) Ion Balance (Diff*100/Sum) (%) = 1.96
b) Total Alkalinity (calc as $CaCO_3$) (mg/L) = 262
c) Total of Cations + Anions = 25490
(calculated dissolved salts)
d) Hardness (calc as $CaCO_3$) (mg/L) = 6522

d) Theoretical Total dissolved salts = 22144
(From Electrical Conductivity)

QUALITY CONTROL COMMENTS

Item	Actual Value	Acceptance Criteria	Satisfactory? (Yes/No)
Ion Balance (%) =	1.96	5%	Yes
Expected pH range		< 8.3	Yes
% difference between measured total dissolved solids and calc total dissolved salts (from ionic comp) =	na	5%	na

na = not analysed
nd = not detected
is = insufficent sample

If No - what action is recommended by Amdel

1. INTRODUCTION

Three samples were received for water and headspace analysis on 5 January 2001. This is a formal presentation of results forwarded by facsimile, as they became available.

2. PROCEDURE

Water analysis was performed in accordance with APHA 19th edition methods.

Gas concentrations were determined by injection into a Perkin Elmer Autosystem XL gas chromatograph equipped with a packed column. Concentrations were calculated from peak areas measured with a proprietary software package and compared with peak areas taken from standard gas mixtures of known concentration injected into the same chromatograph.

3. RESULTS

Water analysis is presented on the following pages.

Headspace analysis for TRIFON-1 DST-3 is as follows:

Methane	38.4%
Ethane	0.69%
Propane	0.08%
Butanes	87µL/L
Pentanes	8µL/L

equates to ~ 96% methane.

amdel
Petroleum Services

TABLE 1 - WATER ANALYSIS

JOB NUMBER: LQ9761

WELL / ID: TRIFON-1, DST-3
SAMPLE TYPE: Water
SAMPLE POINT:
DATE COLLECTED:
DATE RECEIVED: 05/01/01

FORMATION: Strezlecki Fm
INTERVAL: 2188-2218m
COLLECTED BY: Client

PROPERTIES:

pH (measured) = 6.6
Resistivity (Ohm.M @ 25°C) = 0.34
Electrical Conductivity (µS/cm @ 25°C) = 29100
Specific Gravity (S.G. @ 20°C) = na
Measured Total Dissolved Solids(Evap@180°C) mg/L = na
Measured Total Suspended Solids mg/L = na

CHEMICAL COMPOSITION

CATIONS		mg/L	meq/L	ANIONS		mg/L	meq/L
Ammonium	as NH_4	na	na	Bromide	as Br	na	na
Potassium	as K	1140	29.16	Chloride	as Cl	12746	359.04
Sodium	as Na	2956	128.58	Fluoride	as F	na	na
Barium	as Ba	na	na	Hydroxide	as OH	nd	nd
Calcium	as Ca	4444	238.72	Nitrite	as NO_2	na	na
Iron	as Fe	na	na	Nitrate	as NO_3	2	0.03
Magnesium	as Mg	nd	nd	Sulphide	as S	na	na
Strontium	as Sr	na	na	Bicarbonate	as HCO_3	168	2.75
Boron	as B	na	na	Carbonate	as CO_3	nd	nd
				Sulphite	as SO_3	na	na
				Sulphate	as SO_4	257	5.35
Total Cations		8540	396.46	**Total Anions**		13173	367.18

DERIVED PARAMETERS

a) Ion Balance (Diff*100/Sum) (%) = 3.83
b) Total Alkalinity (calc as $CaCO_3$) (mg/L) = 137
c) Total of Cations + Anions = 21713
(calculated dissolved salts)
d) Hardness (calc as $CaCO_3$) (mg/L) = 11097

d) Theoretical Total dissolved salts = 18624
(From Electrical Conductivity)

QUALITY CONTROL COMMENTS

Item	Actual Value	Acceptance Criteria	Satisfactory? (Yes/No)
Ion Balance (%) =	3.83	5%	Yes
Expected pH range		< 8.3	Yes
% difference between measured total dissolved solids and calc total dissolved salts (from ionic comp) =	na	5%	na

na = not analysed
nd = not detected
is = insufficent sample

If No - what action is recommended by Amdel

amdel
Petroleum Services

TABLE 1 - WATER ANALYSIS

JOB NUMBER: LQ9761

WELL / ID: TRIFON-1, DST-3/4
SAMPLE TYPE: Water
SAMPLE POINT: Tool Chamber
DATE COLLECTED:
DATE RECEIVED: 05/01/01

FORMATION:
INTERVAL:
COLLECTED BY: Client

PROPERTIES:

pH (measured) = 6.5
Resistivity (Ohm.M @ 25°C) = 0.34
Electrical Conductivity (µS/cm @ 25°C) = 29200
Specific Gravity (S.G. @ 20°C) = na
Measured Total Dissolved Solids(Evap@180°C) mg/L = na
Measured Total Suspended Solids mg/L = na

CHEMICAL COMPOSITION

CATIONS		mg/L	meq/L	ANIONS		mg/L	meq/L
Ammonium	as NH_4	na	na	Bromide	as Br	na	na
Potassium	as K	1160	29.67	Chloride	as Cl	12873	362.62
Sodium	as Na	4820	209.66	Fluoride	as F	na	na
Barium	as Ba	na	na	Hydroxide	as OH	nd	nd
Calcium	as Ca	3082	165.56	Nitrite	as NO_2	na	na
Iron	as Fe	na	na	Nitrate	as NO_3	4	0.06
Magnesium	as Mg	nd	nd	Sulphide	as S	na	na
Strontium	as Sr	na	na	Bicarbonate	as HCO_3	161	2.64
Boron	as B	na	na	Carbonate	as CO_3	nd	nd
				Sulphite	as SO_3	na	na
				Sulphate	as SO_4	230	4.79
Total Cations		9062	404.88	**Total Anions**		13268	370.11

DERIVED PARAMETERS

a) Ion Balance (Diff*100/Sum) (%) = 4.49
b) Total Alkalinity (calc as $CaCO_3$) (mg/L) = 132
c) Total of Cations + Anions = 22330
(calculated dissolved salts)
d) Hardness (calc as $CaCO_3$) (mg/L) = 7696

d) Theoretical Total dissolved salts = 18688
(From Electrical Conductivity)

QUALITY CONTROL COMMENTS

Item	Actual Value	Acceptance Criteria	Satisfactory? (Yes/No)
Ion Balance (%) =	4.49	5%	Yes
Expected pH range		< 8.3	Yes
% difference between measured total dissolved solids and calc total dissolved salts (from ionic comp) =	na	5%	na

na = not analysed
nd = not detected
is = insufficent sample

If No - what action is recommended by Amdel

APPENDIX 9

PALYNOLOGY REPORT

FACSIMILIE

BIOSTRATA PTY LTD
A.B.N. 39 053 800 945

Principal Scientist:
Alan D. Partridge
School of Earth Sciences
La Trobe University
Bundoora Vic 3083

Postal Address:
302 Waiora Road
Macleod Vic 3085

University Office: (03) 9479 1517
Home Phone/Fax: (03) 9457 3888
email address: AlanPartridge@access.net.au

20th February 2001

Our ref: PR21/03

Attention: Jack Mulready
Lakes Oil N.L.
500 Collins Street
Melbourne VIC 3000

Fax No: 03 9629 1624

Trifon-1 — Provisional Report No. 1

This report provides initial palynological results on four SWC samples collected on 6th February and forwarded to Laola Pty Ltd in Perth the next day. The prepared palynological slides where returned on 20th February and analysed to provide the following zone and age determinations:

Sample Type	Depth (m)	Spore-Pollen Zone STAGE/AGE	Comments and Key Species Present
SWC 30	1241	Upper(?) *C. paradoxa* **Mid to Late ALBIAN**	Assemblage dominated by spores 54%, with the majority assigned to *Cyathidites* spp. 28%. Rare specimens of *Coptospora paradoxa* confirm zone assignment while the tentative identification of *Pilosisporites grandis* suggests the sample belongs to the Upper subzone.
SWC 22	1477	**Early Cretaceous** Probably *C. paradoxa*	Although clearly an assemblage from the Strzelecki Group key zone index species were not recorded during this initial examination.
SWC 12	1778	*C. paradoxa* **Mid to Late ALBIAN**	Assemblage dominated by gymnosperm pollen 78%, but containing rare specimens of index species *Coptospora paradoxa*.
SWC 1	2130	*Crybelosporites striatus* **Early ALBIAN**	Assemblage dominated by spores 82%, including *Ruffordiaspora australiensis* 10%. No older than the *Crybelosporites striatus* Zone based on rare & poorly preserved specimens of the eponymous species.

Discussion: All samples gave good yields with high concentrations of spore-pollen and rare non-marine algal cysts, and all belong to the upper part of the Early Cretaceous Strzelecki Group. The possibility that the shallowest SWC at 1241m might belong to the "Golden Beach Group" is dismissed as untenable based on the recovery of a diverse Mid to Late Albian spore-pollen assemblage.

Prepared by Alan D. Partridge

Palynological analysis of four sidewall cores from the Strzelecki Group in Trifon–1, onshore Gippsland Basin.

by

Alan D. Partridge

Biostrata Pty Ltd
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Palynological analysis of four sidewall cores from the Strzelecki Group in Trifon–1, onshore Gippsland Basin.

by Alan D. Partridge

INTERPRETATIVE DATA

Summary.

Four sidewall core samples over an interval of 890 metres were analysed for palynology from the Strzelecki Group in the Trifon–1 well located in the Seaspray Depression onshore Gippsland Basin. The three shallowest samples between 1241 and 1778m are assigned to the *Coptospora paradoxa* spore-pollen Zone, while the deepest sample at 2130m is assigned to the slightly older *Crybelosporites striatus* spore-pollen Zone. The interval sampled is assigned an Albian age.

Introduction.

The samples were collected on Tuesday 6th February 2001 and forwarded to Laola Pty Ltd in Perth for palynological processing. The prepared palynological slides were returned on 20th February and the initial results provided in a provisional palynological report prepared the same day. Final results are provided below in Table 1.

The four samples were selected from a suite of 29 sidewall cores recovered from the Strzelecki Group. They were chosen to provide a relatively even spacing, and also sample the most favourable lithologies for palynology (Table 3). Between 6 and 11 grams of rock was processed, with all samples giving high yields and high concentrations of palynomorphs. Preservation was mainly poor to fair, with the shallowest sample having the best preservation. Recorded species diversity averaged 39+ spore-pollen species and 2+ microplankton species per sample (Table 4). A listing of all species recorded and their relative abundance is provided in Table 5. Author citations for the species names can be sourced from Dettmann (1963, 1986), Helby *et al.* (1987) for spore-pollen, and from the index compiled by Fensome *et al.* (1990) for acritarch and algal species.

Geological Discussion.

All four sidewall core samples contain diverse spore-pollen and limited non-marine microplankton assemblages characteristic of the Strzelecki Group. The possibility that part of the interval may belong to the younger Emperor and Golden Beach Subgroups of the Latrobe Group cannot be supported, as none of the species recorded nor their abundances in the assemblages are considered diagnostic of these younger units.

The thickness and subsurface depth at which the zones are encountered in Trifon–1 are also consistent with available palynological data from the Strzelecki Group in adjacent wells, as provided in the following table:

Table 1. Comparison of Strzelecki Group zones in adjacent wells.

Well Name	Strzelecki Group Top	*C. paradoxa* Zone Top	*C. paradoxa* Zone Base	*C. striatus* Zone Top	*C. striatus* Zone Base	T.D.
Burong–1	1235m	1256m		NP	NP	1260m
Darriman–1	1291m			? 1364m		1442m
Dutson Downs–1	>1786m			? 1810m	1835m	1862m
East Reeve–1	1440m			? 1508m	1600m	1622m
Gangell–1				2115m	2350m	
Lake Reeve–1	1838m	1858m				2022m
North Seaspray–1	1104m	1113m	1500m†	NP	NP	1524m
Salt Lake–1	1571m	NP	NP	NP	NP	1644m
Seaspray–1	1384m	1460m	1693m†	NP	NP	1693m
Trifon–1		1241m	1778m†	2130m		
Wellington Park–1	1158m	1163m	1387m	Present	Present	3661m
Woodside–1	1200m		1815m†	NP	NP	1831m
Woodside–2	1112m	1254m	1258m	? 1521m	2101m	2701m
Woodside–3			1636m†	? 1745m		1824m
Woodside South–1	985m		1006m	? 1063m		1773m

† Most reliable data on base of zone.
NP = Not penetrated.

In the fifteen wells tabulated the top of the Strzelecki Group is penetrated at depths of between 985 and 1835m. In most of the wells the *C. paradoxa* Zone is found immediately below the unconformity. The obvious exceptions are the Darriman–1 and Salt Lake–1 wells, which have very old palynological analyses, and the Dutson Downs–1 and East Reeve–1 wells, which although containing more recent analyses are both characterised by rather poor assemblages. The latter two wells have previously been interpreted to penetrate the older *C. striatus* Zone below

the unconformity, but considering that the critical index species for the *C. paradoxa* Zone are often rare and difficult to find, the assemblages recorded could easily be younger. An example of this problem is the sample recorded herein at 1477m in Trifon–1, which although thoroughly examined lacked the index species for both the *C. paradoxa* and *C. striatus* Zones.

In those wells where the data is most reliable the base of the *C. paradoxa* Zone lies between 1500 and 1815m, with most of the wells reaching T.D. while still within the zone. Considering that the maximum confirmed thickness for *C. paradoxa* Zone is the >540 metres recorded in Trifon–1, and that the cumulative effects of all errors is to make the zone thinner, it quite conceivable that only the five deepest wells listed (i.e. Gangell–1, Lake Reeve–1, Trifon–1, Lake Wellington Park–1 and Woodside–2) penetrated significant thickness of older section.

Finally, no reliable and recent palynological data appears to be available for the Strzelecki Group in the wells Carrs Creek–1 (T.D. 1679m), Darriman–1 (T.D. 1422m), Keystone–1 (T.D. 1960m), McAlister–1 (T.D. 1452m), North Seaspray–2 (T.D. 1633m), and Wonga Binda–1 (T.D. 1394m). Of these wells the most likely to reach older section than the *C. paradoxa* Zone are Carrs Creek–1, Keystone–1 and North Seaspray–2.

Description of Assemblages

Coptospora paradoxa spore-pollen Zone

Interval: 1241 to 1778 metres

Age: Middle to Late Albian

The top and the bottom sidewall cores over the this interval are assigned to the zone on the presence of rare but well preserved specimens of the eponymous species *Coptospora paradoxa* following the zone definition of Dettmann & Playford (1989) and Helby *et al.* (1987). In addition, the occurrence in the shallowest sidewall core, of rare specimens of *Cicatricosisporites pseudotripartitus* and *Perotrilites majus,* and the tentative identification of *Pilosisporites grandis* suggests that this sample belongs to the Upper subzone. The middle sample surprisingly lacks *Coptospora paradoxa, Crybelosporites striatus*, and all other associated index species and therefore could easily be mistaken for an assemblage from the older *C. hughesii* Zone. It is assigned to the *C. paradoxa* Zone solely on superposition

The assemblage composition of the three samples differs significantly as is often the case with non-marine spore-pollen assemblages (Table 5). The only linking feature is the common occurrence of *Podocarpidites* which averages 25%. All samples contain fossil algae, of which the most frequently occurring species is small (<20µ) *Sigmopollis carbonis*, which is related to morphologically similar Holocene algae occurring in eutrophic to mesotrophic freshwater environments (Srivastava, 1984).

***Crybelosporites striatus* spore-pollen Zone**

Sample at: 2130 metres

Age: Early Albian

The deepest sidewall cores is assigned to the zone on rare presence of the eponymous species *Crybelosporites striatus* in an assemblage dominated by spores (82% of spore-pollen count). The presence of *Foraminisporis asymmetricus* and absence of *Cyclosporites hughesii* and *Cooksonites variabilis* supports the zone assignment. Non-marine microplankton are represented by rare specimens of *Sigmopollis carbonis*, *S. hispidus* and the colonial algae *Botryococcus braunii.*

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SRIVASTAVA, S.K., 1984. Genus *Sigmopollis* from the Maastrichtian Scollard Formation, Alberta (Canada), and its algal affinity. *Pollen et Spores 26*, p.519–530.

Table 2: Interpretative data from Trifon-1, Gippsland Basin.

Sample Type	Depth metres	Spore-Pollen Zone or (Subzone)	CR*	Comments & Key Species Present
SWC 30	1241	Upper (?) *C. paradoxa*	B1	LADs of *Coptospora paradoxa* and other Early Cretaceous species in assemblage dominated by spores 54% confirm top of Strzelecki Group, while the tentative identification of *Pilosisporites grandis* suggests the sample belongs to the Upper subzone.
SWC 22	1477	*C. paradoxa*	B5	Relatively low diversity sample lacking key index species that is assigned to *C. paradoxa* Zone on superposition. Assemblage dominated by spores 71%.
SWC 12	1778	*C. paradoxa*	B1	FAD of *Coptospora paradoxa* in assemblage dominated by gymnosperm pollen 78%.
SWC 1	2130	*C. striatus*	B1	FAD of *Crybelosporites striatus* in assemblage dominated by spores 82%, including common *Ruffordiaspora australiensis* at 10%.

Spore & Pollen % = abundance expressed as % of SP count only.
FAD & LAD = Last & First Appearance Datums.

*Confidence Ratings used in STRATDAT database and applied to Table 2.

Alpha codes: Linked to sample		**Numeric codes:** Linked to fossil assemblage		
A	Core	**1**	**Excellent confidence:**	High diversity assemblage recorded with key zone species.
B	Sidewall core	**2**	**Good confidence:**	Moderately diverse assemblage recorded with key zone species.
C	Coal cuttings	**3**	**Fair confidence:**	Low diversity assemblage recorded with key zone species.
D	Ditch cuttings	**4**	**Poor confidence:**	Moderate to high diversity assemblage recorded without key zone species.
E	Junk basket	**5**	**Very low confidence:**	Low diversity assemblage recorded without key zone species.

BASIC DATA

Table 3: Basic sample data from Trifon–1, onshore Gippsland Basin.

Sample Type	Depth metres	Lithology	Wt (grams)	VOM (cc)	Org. Yield
SWC 30	1241	Claystone very dark green-grey, soft to firm.	11.3	0.4	0.035
SWC 22	1477	Claystone very dark grey- green to black-brown, firm.	10.4	0.4	0.038
SWC 12	1778	Claystone very dark grey- green, soft to firm.	9.4	2.6	0.276
SWC 1	2130	Claystone light to moderate grey to grey- green, soft to firm.	6.5	0.5	0.076

Wt = Weight of sample processed in grams.
VOM = Volume of wet organic residues in cubic centimetres recovered from sample.
Org. Yield = VOM divided by Wt.

Table 4: Basic assemblage data from Trifon–1, onshore Gippsland Basin.

Sample Type	Depth metres	Visual Yield	Palynomorph Concentration	Preservation	No. SP Species	No. MP Species
SWC 30	1241	High	High	Fair-Good	57+	3+
SWC 22	1477	High	High	Poor-Fair	33+	2+
SWC 12	1778	High	High	Poor	27+	2+
SWC 1	2130	High	High	Poor-Fair	39+	2+
				Averages:	**39+**	**2+**

Table 5. Species distribution list for Trifon-1, onshore Gippsland Basin.

Sample Type:	SWC 30	SWC 22	SWC 12	SWC 1
Depth (metres):	1241	1477	1778	2130
SPORE-POLLEN				
Aequitriradites spinulosus	X	0.8%	X	
Aequitriradites verrucosus	X		X	
Aequitriradites sp.	X	X	X	X
Annulispora folliculosa/microannulata		RW		RW
Antulisporites varigranulatus	RW			
Aratrisporites spp.	RW	RW		X
Araucariacites australis	3.3%	X	21.5%	
Baculatisporites spp.	1.9%	2.4%	4.7%	0.7%
Balmeisporites holodictyus	X		cf.	
Caliallasporites dampieri				X
Ceratosporites equalis	0.5%	1.6%	1.9%	0.7%
Cicatricosisporites pseudotripartitus	X			
Coptospora paradoxa	X		X	
Corollina torosa	1.9%	0.8%		
Crybelosporites striatus	0.5%		X	0.7%
Crybelosporites berberoides	X			
Cupressacites sp.	1.4%		X	
Cyathidites asper	X	X		
Cyathidites australis	2.8%	1.6%	0.9%	5.9%
Cyathidites minor	25.6%	12.2%	4.7%	39.2%
Cyathidites punctatus	X		X	
Cycadopites nitidus		4.1%		0.7%
Densoisporites velatus	X			
Dictyophyllidites spp.	1.4%	5.7%	X	2.6%
Dictyotosporites complex	X			
Dictyotosporites speciosus		X		X
Dulhuntyispora parvithola	RW			
Falcisporites australis	RW	RW		
Falcisporites grandis	X	X		X
Falcisporites simplis				X
Foraminisporis asymmetricus	X		X	0.7%
Foraminisporis dailyi	X			
Foveosporites cannalis	X	X		X
Foveosporites parvietrus	X			
Gleicheniidites circinidites	1.9%		0.9%	2.0%
Horriditriletes ramosus	RW	RW		
Klukisporites scaberis	X			X
Kraeuselisporites spp.		RW		
Laevigatosporites ovatus	0.9%		X	
Leptolepidites verrucatus	0.5%			1.3%
Marattisporites scabratus		X		
Matonisporites cooksoniae	X			X
Microcachryidites antarcticus	14.4%	X	20.6%	2.6%
Neoraistrickia truncata	X	X	X	0.7%
Osmundacidites wellmanii	3.3%	10.6%	3.7%	5.9%

Table 5. Species distribution list for Trifon–1, onshore Gippsland Basin.

Sample Type:	SWC 30	SWC 22	SWC 12	SWC 1
Depth (metres):	1241	1477	1778	2130
SPORE-POLLEN				
Perotrilites majus	X			
Pilosisporites grandis	cf			
Pilosisporites notensis		0.8%		
Plicatipollenites spp.	RW			
Podocarpidites spp.	18.6%	24.4%	32.7%	13.7%
Polycingulatisporites clavus	X			X
Protohaploxypinus spp.	RW	RW		RW
Pseudoreticulatispora pseudoreticulata		RW		
Reticulatisporites pudens				X
Retitriletes spp.	8.8%	3.3%	2.8%	2.0%
Retitriletes austroclavatidites	X	X		X
Retitriletes circolumenus	X			X
Retitriletes eminulus			X	X
Retitriletes facetus				X
Retitriletes nodosus	X		X	
Retitriletes semimuris	cf.			
Ruffordiaspora australiensis	3.7%	10.6%	0.9%	10.5%
Stereisporites antiquisporites	0.9%	17.1%	1.9%	7.8%
Stereisporites pocockii		X		X
Sulcosaccispora alaticonformis				cf.
Trichotomosulcites subgranulatus	5.6%		2.8%	0.7%
Trilete spores undiff.	1.9%	4.1%		1.3%
Triporoletes reticulatus	X			
Vallizonosporites sp.	X			
Velosporites triquetrus	X			
Vitreisporites signatus	0.5%			0.7%
Total Spores:	**54%**	**71%**	**22%**	**82%**
Total Gymnosperms:	**46%**	**29%**	**78%**	**18%**
Total Spore-Pollen Count:	**215**	**123**	**107**	**153**
MICROPLANKTON				
Microplankton undiff.	0.5%	0.8%	1.8%	
Circulisporites parvus		X		
Micrhystridium sp. A.	X			
Shizophacus rugulatus	X			
Sigmopollis carbonis	1.4%	1.6%	0.9%	X
Sigmopollis hispidus			1.8%	X
Total Microplankton Count:	**4**	**3**	**5**	
Microplankton % of total SP & MP:	**1.9%**	**2.4%**	**4.5%**	
Total SP and MP COUNT:	**219**	**126**	**112**	**153**
OTHER PALYNOMORPHS				
Botryococcus braunii				0.6%
Fungal spores/hyphae		X	2.6%	
Reworked Fossils	0.5%			
TOTAL COUNT:	**220**	**126**	**115**	**154**

PE605304

This is an enclosure indicator page.
The enclosure PE605304 is enclosed within the container PE908901 at this location in this document.

The enclosure PE605304 has the following characteristics:

ITEM_BARCODE	PE605304
CONTAINER_BARCODE	PE908901
NAME	Encl.1 Trifon-1 Composite Well Log
BASIN	GIPPSLAND
ONSHORE?	Y
DATA_TYPE	WELL
DATA_SUB_TYPE	COMPOSITE_LOG
DESCRIPTION	Encl.1 Trifon-1 Composite Well Log, Scale 1:500, by Atizvar Pty Ltd for Lakes Oil N.L., W1311, PEP157. Enclosure 1, Part 1 contained within "Well Completion Report" [PE908901].
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	28-FEB-2001
DATE_RECEIVED	02-NOV-2001
RECEIVED_FROM	Lakes Oil NL
WELL_NAME	Trifon-1
CONTRACTOR	
AUTHOR	
ORIGINATOR	Lakes Oil NL
TOP_DEPTH	0
BOTTOM_DEPTH	1300
ROW_CREATED_BY	DN07_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE605305

This is an enclosure indicator page.
The enclosure PE605305 is enclosed within the container PE908901 at this location in this document.

The enclosure PE605305 has the following characteristics:

ITEM_BARCODE	PE605305
CONTAINER_BARCODE	PE908901
NAME	Encl.1 Trifon-1 Composite Well Log
BASIN	GIPPSLAND
ONSHORE?	Y
DATA_TYPE	WELL
DATA_SUB_TYPE	COMPOSITE_LOG
DESCRIPTION	Encl.1 Trifon-1 Composite Well Log, Scale 1:500, by Lakes Oil N.L., W1311, PEP157. Enclosure 1 Part 2 contained within "Well Completion Report" [PE908901].
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	28-FEB-2001
DATE_RECEIVED	02-NOV-2001
RECEIVED_FROM	Lakes Oil NL
WELL_NAME	Trifon-1
CONTRACTOR	
AUTHOR	
ORIGINATOR	Lakes Oil NL
TOP_DEPTH	1200
BOTTOM_DEPTH	2570
ROW_CREATED_BY	DN07_SW

(Inserted by DNRE - Vic Govt Mines Dept)

PE605529

This is an enclosure indicator page.
The enclosure PE605529 is enclosed within the container PE908901 at this location in this document.

The enclosure PE605529 has the following characteristics:

ITEM_BARCODE	PE605529
CONTAINER_BARCODE	PE908901
NAME	Encl.2 Trifon-1 Mud Log
BASIN	GIPPSLAND
ONSHORE?	Y
DATA_TYPE	WELL
DATA_SUB_TYPE	MUD_LOG
DESCRIPTION	Encl.2 Trifon-1 Formation Evaluation Mud Log, Scale 1:200, by Geoservices Logging for Lakes Oil N.L., W1311, PEP157. Enclosure 2 contained within "Well Completion Report" [PE908901].
REMARKS	
DATE_WRITTEN	
DATE_PROCESSED	
DATE_RECEIVED	02-NOV-2001
RECEIVED_FROM	Lakes Oil NL
WELL_NAME	Trifon-1
CONTRACTOR	Lakes Oil NL
AUTHOR	
ORIGINATOR	Lakes Oil NL
TOP_DEPTH	0
BOTTOM_DEPTH	2570
ROW_CREATED_BY	DN07_SW

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