2.0 WELL HISTORY

2.1 General Data

2.1.1	Well Name and Number	:	YORK No.1
2.1.2	Location	:	Latitude : 38°34’57.40"S Longitude : 146°51’36.96"E Easting : 487 829.35 Northing :5 729 515.75 Seismic : VP 318 Line LGY00-04
2.1.3	Elevations	:	G.L. : 11.21m. A.S.L. K.B. : 13.21m. A.S.L.
2.1.4	Petroleum Tenement	:	PEP 158
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	:	Amity Oil NL (5% Royalty)
2.1.7	Date Drilling Commenced:		0000 hours 01st March, 2002
2.1.8	Date Drilling Completed	:	2030 hours 14th March, 2002
2.1.9	Date Rig Released	:	0900 hours 16th March, 2002
2.1.10	Drilling Time to T.D.	:	4.6 days
2.1.11	Total Depth	:	Driller : 1200.0m. Logger : 1196.0m.
2.1.12	Status	:	Plugged and Abandoned.

2.2 Rig Data

2.2.1	Drilling Contractor	:	Sides Engineering Pty Ltd 25 Garden Road, Clayton, VIC, 3168
2.2.2	Rig	:	No.16 Cardwell HL
2.2.3	Draw Works:		Cardwell Double Drum with water-cooled double brakes total area 1832 sq inch. Mechanical clutches band type self energising. 1 ½" ASA duplex drive chain 68,000 lbs rated. Main Drum is Lebus lagged.
2.2.4	Draw Works Engines:		Two General Motors 6/71N total 440 hp diesel engines with 5 speed synchromesh Mack transmission. 1 1/4'' ASA triplex compound.
2.2.5	Substructure:		Raised earthen pad. Rig weight bears directly on ground. Concrete lined cellar and surrounding 1.2 metres raised above ground level concrete pad for stable load bearing. 8'3" minimum clearance below rotary table and ground. Rear steel substructure 8'5" high above ground level with floor area 14' 5" wide and 5'3" deep behind table 3' wide walkways on either side of rig, one has a doghouse on the driller's side. Total loading 250,000 Lbs.
2.2.6	Cellar Size:		2m X 1.3m X 1.5m Deep (below ground level)
2.2.7	Rotary Table:		Brewster OB18. torque tube driven Rated capacity 167 tons static Rated capacity 83.5 tons dynamic

		Baasch Ross Roller drive bushing Speed 25 to 250 rpm, torque 25,000 ft/lb
2.2.8	Catwalk:	Two each 3’ wide full length of rig each with guide rails and steps.
2.2.9	Mast:	Telescoping lattice mast fabricated using 114mm tubular main members and 73mm cross braces. Hydraulic raised and then telescoped with block and bridle designed for 150,000 lbs without guys and 250,000 lbs with guys. Has been inspected and was certificated for 160,000 lbs to AS 1418 in 2000. Monkey board will rack 8,000’ drill string and collars in 60’ stands. Crown saver installed.
2.2.10	Crown Block:	Four main steel roller bearing sheaves grooved 1 1/8” line 30 inch diameter steel, 5” shaft. One rear carry over sheave. 1 x Sandline Sheave grooved for 9/16” line
2.2.11	Swivel:	National N-35 Rating 184 tons static, 112 tons dynamic. 4000 psi working 8,000 psi test 2 ¼” opening.
2.2.12	Kelly:	3 ½” square drive, 40’ long.
2.2.13	Catheads:	Two manual Catheads.
2.2.14	Travelling Block:	One National Ideal 42” triple sheaves 160,000 lb dynamic rating with 6’ long links. Ropes 1” 6x37 I.W.R.C 37.5 ton tensile 6 falls.
2.2.15	BOP’s:	Cameron 7 1/16” twin gate space saver with blind and 3 ½” pipe rams 3000 psi

rated. One (1) Hydril 7 1/16" 3000 psi annular.

2.2.16 Accumulator: Hydril 4 station 90 gallon.

2.2.17 Mud Tanks: Two skid mounted steel mud tanks each 8’ X 4’ X 40’.

Sand trap section	20 bbls
Desilter section	60 bbls
Suction Tank	120 bbls
Settling Tank	50 bbls.
Total capacity	250 bbls.
Mud Mixing tank c/w pump	25 bbls

2.2.18 Mud Pumps: Two Ideco Model T-440 double-acting triplex pumps, belt driven by two GM 6/71 440 BHP diesels. Each fitted with 3” Cameron type B safety valves. Rating each pump: 7 ¼” liners 805 gpm @ 800 psi. 6 1/2” Liners 640 gall/min @ 1000 psi. 5” Liners 306 gall/min @ 1783 psi.

2.2.19 Mixing/Cement Pump: Gardner Denver 5 X 6 duplex powered by 90 hp Diesel motor.

2.2.20 Shale Shaker: Dual screen Linear motion Shaker.

2.2.21 Instruments: Two Cameron 5000 psi mud gauges. Pump speed. Martin-Decker type FS weight indicator 160 load cell. Make-up torque indicator.

2.2.22 Drill String: 240 joints 3-1/2" drill pipe c/w 3.1/2" IF connections 13.5 lbs/ft grades G and E premium.
Two 3-1/2" IF pup joints 6 ft & 10 ft.
12 x 6” slick collars 64 lbs/ft, 4 ½" FH connections.
12 x 4 ¾" collars spiral 45 lbs/ft 3-1/2" IF connections.

2.2.23 Handling Equipment:

Elevators
Two set of 3½" 150 ton 18 degree elevators.
One set of 3½" 100 ton square neck tubing elevators.
One set 9-5/8" side door casing elevators.
One set 7” single joint casing elevator
One set 7” 100 ton side door casing elevators.
One set 5-1/2" single joint casing elevators.
One set 4-1/2” 100 ton side door casing elevators

Slips
Two set 3½" drill pipe slips.
One set 4¾" drill collar slips.
One set 6" drill collar slips.
One Baasch Ross Dog Collar 3-1/2” – 9-5/8”

2.3 Drilling Data

2.3.1 The following is the daily operations summary for York-1. It has been compiled from the tour sheets and daily drilling reports. Onsite drilling supervision for Lakes Oil N.L. was provided by P. Dwyer. Further details are provided in the time/depth curve (Figure 2) and the time analysis chart (Figure 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
01.03.02	344.0m.	Held pre-spud meeting with night crew and service - personnel (2200hs to 2400hrs – 28 Feb) - Spud York-1. Drilled 311mm hole from surface to 90m. Held pre-spud meeting with day crew and service personnel. Drilled to 98m. Rig repair to #1 pump rod packing Drilled to 125m. Light mud losses +/- 10 bph. Rig repair to DP slips. Drilled to 344m. Intermittent mud losses to 30 bph through bottom of Jenny's Point Fm.
02.03.02	441.0m.	Drill 311mm hole from 344m to 412m. Rig repair to pump #1 liner seal. Drill to 441m. Wiper trip to 68m. Hole condition good. Rig line. Break circulation through bit. RIH to bottom. No fill. Circulate hole clean. POH to run casing. Rig to run casing. Run 37 jts 244mm 36# K55 R3 casing.
03.03.02	441.0m.	Pick up landing joint. Land 244mm casing at 433m. Circulate casing. Cement 244mm casing with 10 cu.m 15.6ppg cement. Displace cement. Bump plug with 4500 kPa. Wait on cement. Rig out conductor. Laid out landing joint. Top annulus with 20sx cement. Remove rotary table and rotary beam. Install casing head and BOP's.
04.03.02	441.0m.	Install BOP's. Function test. Rig repair. Wait on kelly hose. Laid out 311mm bit and bit sub. RIH with 216mm BHA
05.03.02	481.0m.	RIH. Tag cement wiper plug at 422m. Test BOP's. Drill cement, shoe track and 311mm

		rathole to 441m. Drill 216mm hole to 446m. Circulate hole clean. FIT = 11.1 ppge. Dump and clean mud tanks. Displace hole to KCl/PHPA mud. Rig repair to liner swabs on pump #1. Drill to 460m. Rig repair to rotary drive. Drill to 465m. Circulate sample. Drill to 480m. Rig repair to pump clutches/throttles. Drill to 481m. POH. Cleaned out bit nozzles and float. RIH.
06.03.02	522.7m.	RIH with bit #2RR. Drill 216mm hole from 481m to 517m. Circulate sample. Drill to 520m. Circulate sample. Drill to 522.7m. Circulate and raise mud weight to 1.13 SG. POH. Make up core bbl. RIH. Ream tight hole from 450m to 519m.
07.03.02	670.0m.	Ream tight hole from 519m to 522.7m. Cut core #1 from 522.7m to 533m. Circulate sample Core to 535m and circulate sample. Core to 537m and circulate sample. Core to 539.2m. Circulate sample. POOH. Chain out. Recover core. 11.2m = 70% Lay down core bbl. RIH with bit. Drill 216mm hole from 539.2m to 670m.
08.03.02	883.0m.	Drill 216mm hole from 670m to 862m. Circulate sample. Drill to 883m. Circulate hole clean. Wiper trip to 509m. Minor overpull 650m to 540m. RIH to bottom. No fill. Circulate and condition mud. POH.
09.03.02	907.0m.	POH. Rig up Schlumberger. Log to TD Pick up new bit. RIH. Ream under-gauge hole from 875m to 883m. Drill 216mm hole from 883m to 907m. Circulated hole clean. POH. Rig to run casing. Run 178mm casing.
10.03.02	907.0m.	Run 178mm casing to 903m. Circulate and condition hole. Pump 7 cu.m cement. Displace with mud. Plug not Bumped. WOC. Set slips with 50klbs tension. Dump mud tanks and clean same. Cut 178mm casing and dress stub. Nipple up BOP’s. Lay down 6” drill collars

11.03.02	974.0m.	Test BOP's to 10,000kPa. Rig repair. Clean out 4-3/4" DC's. Pick up 156mm BHA. Circulate DC's at high rate to clean. RIH. Tag bridge at 814m. Lay down 8 singles. RIH with 4 stands. Wash from 814m to 860m. Drill cement, float equipment and rathole to 907m. Drill 156mm hole from 907m to 911m. Circulate and FIT. 11.2 ppge. Dump mud tanks and clean same. Drill to 916m. Displace to KCl/polymer/Glycol mud. Circulate sample. Drill to 931m. Circulate sample. Drill to 965m. Circulate sample. Drill to 974m.
12.03.02	1117.0m.	Circulate sample at 974m. Drill 156mm hole from 974m to 1000m. Circulate sample. Drill to 1096m. Raised mud weight to 1.07 due to minor cavings. Circulate sample. Drill to 1099m. Circulate sample. Drill to 1104m. Circulate sample. Drill to 1108m. Circulate sample. Drill to 1117m.
13.03.02	1132.2m.	Drill 156mm hole to 1117.9m. Circulate sample. Make 11 stand wiper trip to 907m. Wash 6m fill. Circulate hole clean. POH. Make-up core bbl. RIH. Wash core bbl to bottom. Cut core #2 from 1117.9m to 1132.2m Rig repair to rotary. POH to shoe. Shut-in well and repair. RIH. Bridge at 978m. Wash through bridge to 990m. Mix pill. POH.
14.03.02	1200.0m.	Lay down core. Recover 4.9m = 34%. Lay down bbl. RIH with drilling BHA to 800m. Break circulation. RIH to 1117m. Wash through bridge at 990m. Ream core track from 1117.9m to 1132.2m. Drill 156mm hole from 1132.2m to 1200m. Circulate sample. Wiper trip to 1115m Circulate and condition hole. Pump weight pill. POH.
15.03.02	1200.0m.	POH with bit 4RR.Rig up Schlumberger. Run log 1: HALS-BHC-MCFL-DLD-BNL-GR. Log #2: CMR. Tool would not pass 917m. Rig down

		Schlumberger. RIH with open-ended drill pipe to 927m. Circulate hole clean. Mix and pump 54sx cement plug over interval 927m to 860m. POH 5 stands to 831m. Circulate pipe clean. Lay down excess DP and DC's. Lay down kelly. Tag cement at 863m with 5,000kg. Test to 7000kpa.. Lay down DP. Rig down BOP's.
16.03.02	1200.0m.	Standby. Rig down BOP's. Set 20sx cement plug #2 from 40m to 5m. Release rig 0900 Hrs.

2.3.2 Hole Sizes and Depths :

12.25" / 311 mm. to 441.0m.
8.5" / 216 mm. to 907.0m.
6.125" / 156 mm. to Total Depth

2.3.3 Casing and Cementing :

Surface

Size -	9.625" / 244 mm.
Weight -	64.9kg/m.
Grade -	K55
Shoe Setting Depth -	433.0m.
Quantity of Cement -	10 cubic metres “A” 15.6 ppg Top up with 20 sx “A”

Intermediate

Size -	7" / 178mm.
Weight -	34.2kg/m.
Grade -	K55
Shoe Setting Depth -	903.0m.
Quantity of Cement -	7 cubic metres “A”.

2.3.4 Deviation Surveys :

Depth (metres)	Deviation (degrees)	Depth (metres)	Deviation (degrees)	Depth (metres)	Deviation (degrees)
63	0.25	481	1.25	1118	0.75
189	0.50	523	1.75	1200	0.25
322	0.00	883	1.00		
441	1.00	907	MR		

2.3.5 Drilling Fluid :

(a) Spud - 441m. Type - Gel Spud Mud
Additives - Ausgel, Ausben, Caustic, Enerseal-F.

(b) 441 – 907m. Type - KCl – PHPA-Polymer
Additives - KCl Tech, PHPA, Auspac-R, Caustic, Soda Ash, Xantemp SD, Barytes, Biocide 25% Glute.

(c) 907 – 1200m. Type - KCl – Glycol-Polymer
Additives - KCl Tech, Glycol CP, Soda Ash, Auspac-R, Caustic, Xantemp SD, Barytes, Ausdex, Biocide 25% Glute.

2.3.6 Physical Mud Properties :

Date	Wt.	Vis.	WL	FC	pH	PV/YP	Gels	K+	Solids	Cl-	Glycol
01/03	1.12	38	24	3	9	9/15	11/14	0	6.7	2000	
02/03	1.13	43	26	3	8.5	10/24	15/21	0	7.7	2200	
03/03											
04/03											
05/03	1.04	37	8.5	1	9.5	11/11	1/1	16750	1.2	17500	
06/03	1.15	43	7	1	8.5	18/24	5/6	13131	7.6	17000	
07/03	1.16	38	6.5	1	9	14/19	3/4	17293	5.5	20.5	
08/03	1.16	47	6.8	1	9	20/30	4/5	17293	6.3	20	
09/03	1.16	43	7.2	1	9.5	18/23	4/5	16212	6.5	19	
10/03											
11/03	1.05	37	7.5	1	8.5	10/10	1/1	38368	0.7	37000	6.3
12/03	1.12	34	5	1	8.5	7/6	1/1	51338	4	53000	6.3
13/03	1.13	32	7.4	1	8.5	6/5	1/1	55121	4.2	57000	5.3
14/03	1.17	42	7	1	8.5	17/20	2/3	59444	6.1	62000	5.3
15/03	1.17	42	7	1	8.5	17/20	2/3	59444	6.1	62000	5.3

Chemicals Used :

Product	Units	Amount
Aus Pac-R* (25 kg)	26 sacks	650 kg
Ausben (USA) (25 kg)	34 sacks	850 kg
Aus-Dex (25 kg)	15 sacks	375 kg
Ausgel (25 kg)	210 sacks	5250 kg
Barite (25 kg)	576 sacks	14400 kg
Biocide 25% Glut (25 kg)	4 sacks	100 kg
Caustic Soda (20 kg)	14 sacks	280 kg
Enerseal Fine (25 kg)	30 sacks	750 kg
Glycol CP (1500 kg)	2 sacks	3000 kg
KCl Tech (25 kg)	420 sacks	10500 kg
PHPA (25 kg)	4 sacks	100 kg
Soda Ash (25 kg)	4 sacks	100 kg
Xantemp SD (25 kg)	3 sacks	75 kg

2.3.7 Water Supply :

Water was obtained from a bore on site.
Pf / Mf 0/0.15, Cl 1950 mg/l, Hardness 360 mg/l

2.3.8 Perforation Record :

None

2.3.9 Plugging and Cementing :

Plug 1. 927 - 860m 54 sx ‘A’ Tagged at 863.0m.
Plug 2. 40.0 - 5.0m 20 sx ‘A’

2.4 Logging and Testing

2.4.1 Wellsite Geologist :

J.A. Mitchell

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 450m. and then at 3m. intervals to 1200.0m. (T.D). The cuttings samples and sets were:

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

2.4.4 Coring :

2 cores were cut.
Core#1. 522.7 – 539.2m, Cut 16.5m, Recovered 10.77m,(65.3 %).
Latrobe Group coal packed off inner barrel and no Latrobe Group sands were recovered.
Core #2. 1117.9 – 1132.2m, Cut 14.3m, Recovered 4.92m (34.4%).
Highly fractured Sandstone.

2.4.5 Sidewall Cores :

None

2.4.6 Testing :

None

2.4.7 Wireline Logs :

Two suites of logs were run by Schlumberger.

Suite 1. (883.5m L)

Type Log	Interval (m)
HALS-MCFL-BHC-GR-SP (GR to Surface)	883.5-434.0m

Suite 2. (1196.0m L)

Type Log	Interval (m)
HALS-MCFL-BHC-TLD-CNL-GR-SP (GR-CNL 904.0 – 883.5m)	1191.0-904.0m

2.4.8 Temperature Surveys :

Wireline logging recorded the following bottom hole temperatures :-

1. 39°C / 5.5 hours after circulation ceased at 883.5m.
2. 66°C / 6.0 hours after circulation ceased at TD (1196.0m L).

2.4.9 Velocity Survey :

None