GLENAIRE-1/ST1

WELL COMPLETION REPORT

VIC/PEP160
Victoria

Beach Petroleum Limited

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May 2007

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WELL DATA CARD	GLENAIRE-1 /ST1	PAGE 1 of 1

Location:	Line:	OMN93-02R
	SP:	248
	Offset:	16m SE
	Latitude:	37 34' 47.03220"S
	Longitude:	140° 59' 52.25415"E
	Easting:	499 810.02 E
	Northing:	5 840 813.01 N
	Projection	MGA Zone 54
	Spheroid	GRS 80 Ellipsoid
	Datum	GDA 94
Elevation:	GL:	71.25m
	RT:	77.4m ASL
Glenaire-1		
Date Spudded:	08/09/2006	08:00 hours
Reached TD:	02/10/2006	06:30 hours
Glenaire-1 /ST1		
Start Operation:	04/10/2006	06:00 hours
Reached TD:	27/10/2006	11:30 hours
Rig Release:	04/11/2006	15:00 hours

Permit:	PEP 160	
Participants:	Beach Petroleum Ltd (Op)	50%
	Santos Ltd	30%
	Origin Energy Resources Ltd	20%
Status:	Cased & completed for further testing (with gas & oil shows)	
Type Structure:	Fault dependant 3-way dip closure	
Rig:	Ensign	32
Total Depth:	Driller:	3701.0m
	Logger:	3702.5m
Plugs:	Kick-off plug in Glenaire-1	3028-3128m
Hole Sizes:	445mm (17 ½")	307.0m
	311mm (12 ¼")	1255.0m
	216mm (8 ½")	3002.0m
	152mm (6")	3701.0m
Casing:	Size	Shoe
(a) Conductor	508mm (20")	10.0m
(b) Surface	340mm (13 ⅜")	304.0m
(c) Intermediate	244mm (9 ⅝")	1252.0m
(d) Production	178mm (7")	2998.0m
(e) Production	114mm (4 ½")	3701.0m
(f) Production tubing	73mm (2 7/8")	2876.7m

STRATIGRAPHIC UNITS PENETRATED

AGE	FORMATION	Depth (mRT)	Depth (mTVDRT)	Depth (mTVDSS)	Thickness (mTVT)
Tertiary - Recent	Gambier Limestone	6.2	6.0	71.2	21.0
Eocene	Dilwyn Formation	27.2	27.2	50.2	274.6
Eocene-Palaeocene	Pember Formation	301.9	301.8	-224.4	85.1
Palaeocene	Pebble Point Formation	387.0	386.9	-309.5	103.7
L. Cretaceous	Sherbrook Group (Undiff.)	490.7	490.6	-413.2	107.8
L.- E. Cretaceous	Eumeralla Formation	598.4	598.4	-521.0	1377.7
E. Cretaceous	Laira Formation	1976.8	1976.1	-1898.7	1531.3
E. Cretaceous	Pretty Hill Formation	3513.0	3507.4	-3430.0	187.0+
	TD	3706.7	3694.4	-3617.0	

WIRELINE LOGS (Schlumberger)

Type Log	Run	Interval (m)	Max Temp Recorded
Glenaire-1			
HALS-PEX-BHC-GR (Res-Sonic-GR)	1	2999.8 – 1252m (GR recorded to surface)	104 deg C (7.50 hrs after circ. stopped)
Glenaire-1/ ST1			
FMS-GR	1	3702.0 – 2996.0m	130 deg C
DLT-BHC-PEX-GR	2	3702.5 – 2997.0m	133 deg C

DRILL STEM TESTS

No	Formation / Interval (metres)	Periods (mins)	EMP IP/FP (psi)	EMP FSIP (psi)	Fluid to surface (mins)	Surface Press (max) (psi)	Result
	NIL						

PERFORATIONS

Interval	Formation	Gun				Charges	
		Size	Type	Phase	S / ft.	Type	Gram
NIL							

LOG INTERPRETATION (Saros – Mid-case)

Interval (mRT)	Formation	Gross (m)	Rw @ 25°C	Net Pay (m)	Phit Av %	Swt Av %	Vcl Av %
3508 – 3705m	Pretty Hill Formation	197.0	0.38	4.42	13.0	53.0	11.0
3508 – 3705m	Pretty Hill Formation	197.0	0.26	8.79	12.0	50.0	11.0

Cut-offs for Reservoir Summary: Vcl < 35%; PHIE >10%; SWT < 60%

SUMMARY

Glenaire-1 was a wildcat well designed to test a fault dependant 3-way dip structure in the onshore Otway Basin, within the eastern Penola Trough in Victoria, about 33 km north east of Mount Gambier (Figure 1) and approximately 24 km southeast of the Katnook Gas Field.

The Glenaire structure was interpreted to be primarily prospective for gas in the sands of the Early Cretaceous Pretty Hill Formation, with secondary potential within the Barremian Katnook / Windermere Sandstone. These reservoirs are proven productive in the South Australia portion of the basin, with the Katnook Graben hosting five gas fields (Katnook, Redman, Ladbroke Grove, Haselgrove and Haselgrove South) with recoverable reserves of approximately 100 bcf.

Glenaire is located in a similar structural and geological setting to the S.A. gas fields. The early rift sediments of the Casterton Formation and shales in the basal Pretty Hill Formation were expected to be the source of hydrocarbons. These units are interpreted, from modelling, to be the source of the hydrocarbons in the Katnook Graben gas fields.

The nearest offset wells to Glenaire-1 are Heathfield-1,17 km to the south east, Haselgrove South-1, 19 km to the northwest, Bus Swamp-1, 19 km to the east northeast and the Ladbroke Grove and Katnook gas fields, 23 and 24 km to the northwest, respectively.

Glenaire-1 spudded on the 8th September 2006 (08:00 hrs). A 445mm (17 ½") hole was drilled to 307.0m and 340mm (13 ⅜") surface casing was run and cemented at 304.0m. 311mm (12 ¼") hole was drilled to 1255.0m and 244mm (9 ⅝) casing was run and cemented at 1252.0m. 311mm (8 ½") hole was then drilled to 3002.0m where a suite of wireline logs (GR-RES-SONIC) was run from TD to 244mm (9 ⅝") casing shoe with GR back to surface. 178mm (7") casing was run and cemented to 2998m. 152mm (6") hole was then drilled to 3230m where drilling was suspended while waiting on directional equipment. Drilling continued to 3306m with increased deviation up to 20.5 degrees (356 deg North azimuth). A kick-off plug was then set from 3128m to 3028m while waiting on MWD equipment.

Sidetrack operations on Glenaire-1 /ST1 commenced on the 4th of October 2006 (06:00hrs) and drilling continued in 152mm (6") hole to 3700m where a suite of wireline logs (FMS-GR, BHC-PEX-GR) was run from TD to casing shoe. Drilling continued to 3701m where a 114mm (4 ½") liner was run and cemented to 3701.0m. 73mm (2 7/8") production tubing was run to 2876.5m and down-hole equipment installed.

The stratigraphic section encountered was as expected with the exception that the Katnook and Windermere Sandstones are absent at Glenaire.

Gas shows ranging from poor to good were observed in the Laira Formation and the Pretty Hill Formation. Coals within the Eumeralla and Laira Formations showed no direct oil fluorescence but did exhibit dull to pale crush cut fluorescence. Fracture infill material of a sandstone in the Laira Formation from 3438.0 to 3447.0m had dull yellow mineral fluorescence and trace dull to moderately bright very pale yellow white oil fluorescence which gave a weak dull milky white crush cut fluorescence. A kaolinitic sandstone at the top of the Pretty Hill Sandstone from 3591.0 to 3603.0m had 50% dull patchy medium yellow oil fluorescence which gave a very weak dull pale yellow crush cut.

Log analysis indicates 4.4 m of net gas pay in the Pretty Hill Formation (3508 – 3705m) using at Rw: 0.38 ohmm @ 25°C or 8.8m of net gas pay using Rw: 0.26 ohmm @ 25°C. Cut-offs used in the analysis were PHIE> 10%; Vcl< 35% and SWT< 60%.

Glenaire-1/ST1 was completed for further testing and the rig released on the 4th October 2006 at 15:00 hrs.

Wellsite Geologist:	**Dave Horner**	**Card Prepared by:**	**Andrew Hodgson**	**Date:**	**April 07**

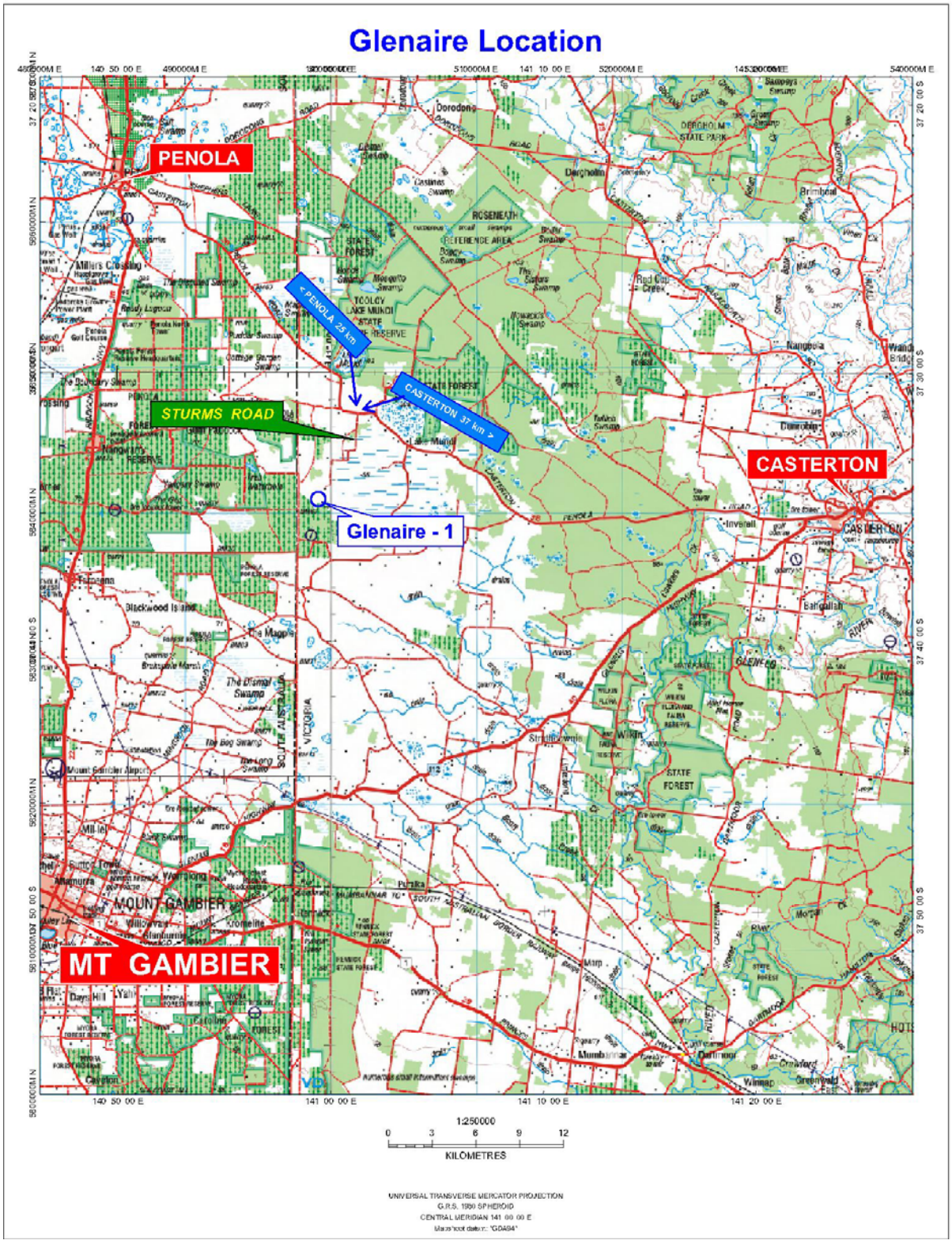

Figure 1: Glenaire-1 Location Map

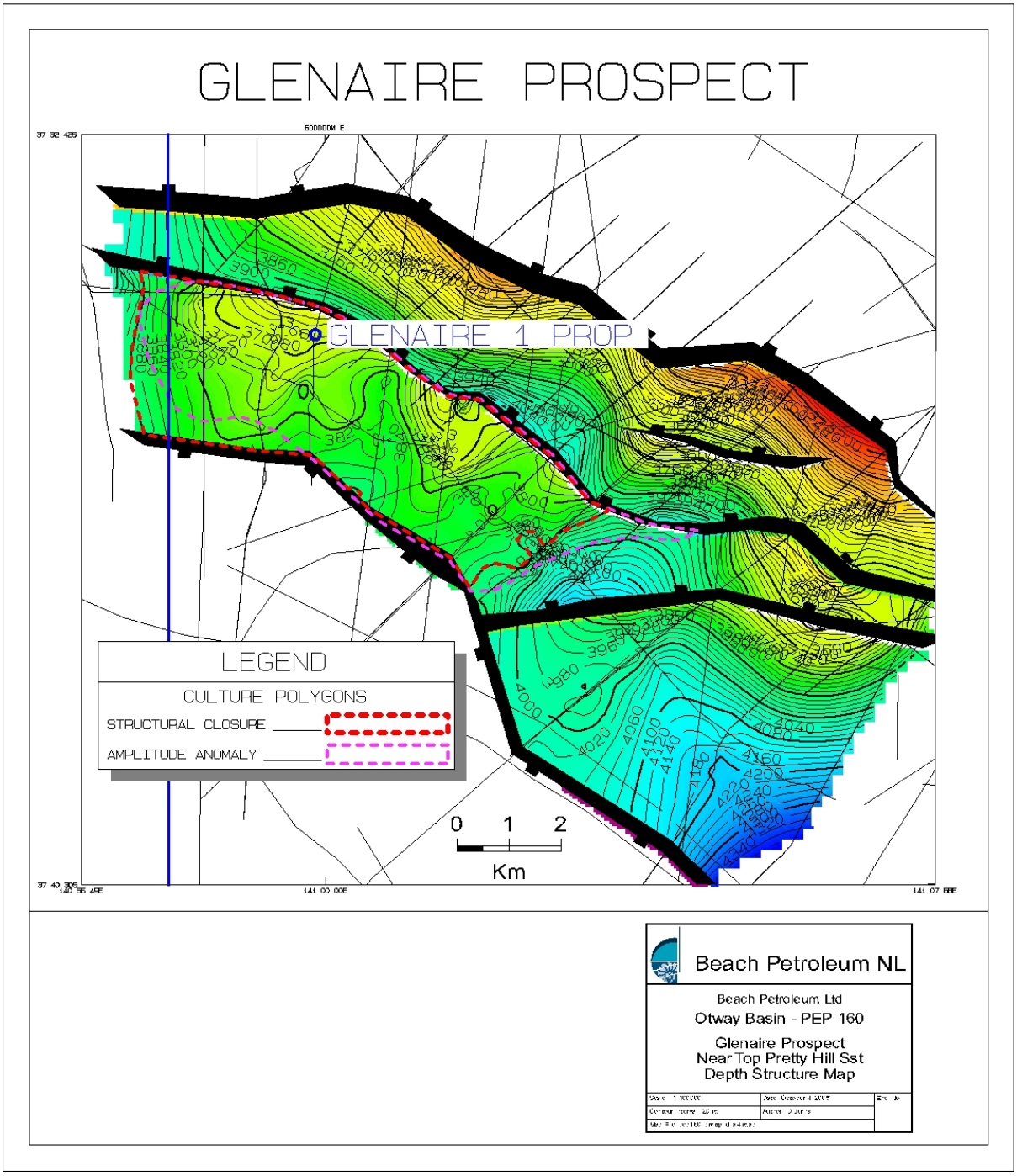

Figure 2: Glenaire Near Top Pretty Hill SST Depth Structure Map

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Glenaire-1/ST1 was completed for further testing and the rig released on the 4th October 2006 at 15:00 hrs.

All depths reported in this well completion report are measured depth relative to the rotary table (MDRT) unless otherwise stated.

2 WELL HISTORY

2.1 General Data

2.1.1	Well Name and Number	:	**Glenaire-1**
2.1.2	Location	:	Latitude 37° 34' 47.03220"S
			Longitude 140° 59' 52.25415"E
			Easting 449 810.02 E
			Northing 5 840 813.01 N
			Projection MGA Zone 54
			Spheroid GRS 80 Ellipsoid
			Datum GDA 94
			Survey OMN93
			Line 02R
			SP 248, 16m SE Offset
2.1.3	Elevations	:	G.L. 71.25m
			R.T. 77.4m
2.1.4	Petroleum Tenement	:	Victoria PEP 160
2.1.5	Name of Operator	:	Beach Petroleum Ltd (50.0%) Level 1, 25 Conyngham St Glenside SA 5065
2.1.6	Other Participants	:	SANTOS Ltd (30.0%) 60 Flinders Street Adelaide South Australia 5000
			Origin Energy Resources Ltd (20.0%) John Oxley Centre 339 Coronation Drive Milton QLD 4064
2.1.7	Date Drilling Commenced	:	08:00 hours 8th September, 2006
2.1.8	Date Drilling Completed	:	11:30 hours 27th October, 2006
2.1.9	Date Rig Released	:	15:00 hours 4th November, 2006
2.1.10	Total Depth	:	Driller 3701.0m MD
			Logger 3702.5m MD
2.1.11	Status:	:	Cased and completed for further testing (with gas and oil shows)

2.2 Rig Data

2.2.1	Drilling Contractor	:	Ensign International Energy Services 15-17 Westport Road, Elizabeth West SA 5113.
2.2.2	Rig	:	Ensign Rig #32
2.2.3	Draw Works	:	National 610E. Horsepower rating 750/1000 input. Traction motor: General Electric Model 5GE752AR1 DC type electric motor with 5hp Blower motor. National Type B-2 Catheads makeup and breakout. Hoisting Speed - 4 Rotary Speed - 2
2.2.4	Mast	:	Dreco Cantilever Type 133' 133 feet clear height - 21 feet wide base mast. Static hook load capacity of 500,000 lbs with 10 lines. Static hook load capacity of 467,000 lbs with 8 lines. Max Hoist Load Limit 351,433 lbs w/ 1 1/8" Drill Line with 10 lines- Safety Factor of 3 (Drilling) Max Hoist Load Limit 500,000 lbs w/1 1/8" Drill Line with 10 lines- Safety Factor of 2(Run casing/stuck pipe)
2.2.5	Engines	:	3 – Caterpillar Model 3508 Diesel engines with rig savers, each engine rated at 1100 HP. 3 - 600v Caterpillar generator sets 1137kVa, 60hz synchronous alternators. Ross Hill Controls - control centre 600V 3 phase, 60 hz, 3 generators + 4 SCR bays, metering panels for 1137 kVa generators @ 1800 RPM. 600V motor control centre with starters. Remote "Emergency Shut Down" facility at Rig Managers office.
2.2.6	Brake	:	Baylor Elmagco 5032 brake c/w battery back up and cooling tower
2.2.7	Substructure	:	Dreco four section box style. Max pipe set back capacity - 300,000 lbs Max rotary table capacity - 400,000 lbs Simultaneous Capacity: - 700,000 lbs Overall size - 29' w x 45' l x 18' h Kelly Bushing to ground level - 20' Top of matting to under Rotary Table beams - 13'10"
2.2.8	Rotary Table	:	National Model C-205 - 20½" rotary table with direct prop_shaft drive. Clutch 27" E475 Torque Rating @ 150 rpm - 20,000 ft/lbs
2.2.9	Swivel	:	National Model P300 swivel, complete with Varco

		6800 hydraulic bi-rotational kelly spinner. Capacity - 300 tons.
2.2.10 Kelly Drive	:	Varco type HDP-20 pin drive roller kelly bushing for 4.¼" hex kelly c/w safety guard.
2.2.11 Kelly Spinner	:	Hydraulic Spinner Varco 6800, driven by 2 x Commercial hydraulic power systems driven by 60 Hp electric motor (mounted in substructure). 1 - 4¼" hex x 40' long with 3 ½" IF Pin connection down.
2.2.12 Travelling Block/Hook	:	National type 540-G-250 hook block combination with 5 - 40" diameter sheaves. Capacity - 250 ton.
2.2.13 Mud Pumps	:	3 - National type 8P-80, 6" x 8.1/2" Triplex single acting pumps 800 H.P. complete with Hydril pulsation dampener K20-5000 and Demco 3" shear relief valve. Powered by G.E. 752 DC traction motors. Each pump is charged by mission magnum 6" x 5" x 12". Pre-charge pump belt driven by 50 H.P. electric motor.
2.2.14 Mixing Pumps	:	Pumps Two Halco 6 x 8 x 100HP Mixing Pumps c/w mechanical seals Mixing Hoppers - Two Halco 6" Venturi Type Mixing Hoppers
2.2.15 Mud Tanks	:	Shaker Tank Total Volume 420 BBL Overall Tank Dimension 14.0 m x 2.9 m x 2.55m Trip Tank 50 BBL Sand Trap 50 BBL Desilter Tank 90 BBL Degasser Tank 30 BBL Pumps - One 5 x 6 Desilter Pump One 5 x 6 Degasser Pump One 2 x 3 Trip Tank Pump Agitators - One 10 HP Agitator with 36" pitched blade impeller (Settling tank) Suction Tank Total Volume - 385 BBL Overall Tank Dimension 14.0 m x 2.9 m x 2.55m Suction Tank 155 BBL Premix Tank 155 BBL Slug Tank 75 BBL Pumps - Two Halco 6 x 8 x 100HP Mixing Pumps c/w mechanical seals Agitators - Two 10 HP Agitators Premix and suction with 36" impellers. One 5 HP Slug Tank 32 " impeller Mixing Hoppers - Two Halco 6" Venturi Type Mixing Hoppers General Tank Features Recessed Dump Valves - Redundancy manifolding Wind up Handle Joe Stein suction Valves

			Suction Swivel joint Equalisers - Rubber Components Nitrile Sloping Floors Triple Runner Skids - Mud Pump Suction 10” Shearing Nozzle Greenwood Tank - Valve Gates on Mud Ditch, four access Points
2.2.16	Shale Shakers	:	Shale Shakers – 2 Derrick Flo-Line Cleaners 514 Series
2.2.17	Centrifuge	:	1 Derrick DE-1000 VFO.
2.2.18	Degasser	:	Vacuum Degasser - DFE Design
2.2.19	BOPs	:	1 x 13 5/8”x 5000psi Shaffer Bolted Cover Spherical Preventer, Studded top & Flanged bottom 1x 13 5/8”x 5000psi Shaffer SL Double Gate, Studded Preventer Manual Lock c/w 9 5/8”,7”,4 ½”,3 ½”& CSO rams. 1 x Stripping Bottle- connected to Spherical closing line.
2.2.20	Accumulator	:	Wagner Model 25-120-3BN accumulator 140 gallon capacity, 5 station control valves. Nitrogen bottle backup system. Triplex pump with 25 Hp electric motor. Remote drillers control panel.
2.2.21	Pressure Control Equip.	:	Cooper Cameron 3.1/8” FL gate valve x 5000 psi Choke Manifold c/w1 x 5000psi Swaco Hydraulic actuated choke 1 x Cameron manually adjustable choke 200 ft. flare line, 3.½" tubing. Kill Line 2 x 3 1/8” Cameron FL manual gate valves. 5000 psi 1 x 2 1/16”Cameron Type R Check Valve 5000 psi Choke Line 1 x 3 1/8” Cameron FL manual gate valve 5000 psi 1 x 3 1/8” EEC hydraulic “HCR” gate valve 5000psi
2.2.22	Generators	:	3 – Caterpillar Model 3508 Diesel engines with rig savers, each engine rated at 1100 HP. 3 - 600v Caterpillar generator sets 1137kVa, 60hz synchronous alternators. Ross Hill Controls - control centre 600V 3 phase, 60 hz, 3 generators + 4 SCR bays, metering panels for 1137 kVa generators @ 1800 RPM. 600V motor control centre with starters.
2.2.23	Drill Pipe/Collars	:	Drillpipe 10,000ft, 3-1/2” O.D. grade “G”, 15.5 lb/ft drill pipe c/w 3.1/2” IF connections. 5” OD x 2 9/16” OD Tool Joints

Hevi-Weight Drillpipe
Six (6) 3.1/2" O.D. HWDP with 3.1/2" I.F. connections.

Drill Collars
Twenty Five (25) 6.1/2" OD Spiral drill collars. 4"IF conn
Thirty Five (35) 4.3/4" OD Spiral collars. 3 ½"IF conn
One (1) 4.3/4" OD Monel non magnetic drill collar. 3 ½"IF conn

2.3 Drilling and Completion Data

2.3.1 Drilling Data Summary

The following is the daily operations summary for Glenaire-1/ST1. It has been compiled from the tour sheets and daily drilling reports (Appendix 1). Brian Marriott, Barry Beetson and Ray Ell provided onsite drilling supervision for Beach Petroleum Ltd. A final time-depth curve is provided in Figures 3 and 4. The drilling bit record is included in Appendix 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 metres	Operation
08.09.06	209.0m	Make up #3 stands D.P., rack in Mast. Repair broken Geolograph line & re-run same. Make up 12-1/4" bit, float sub, to stand D.P. Drill mouse hole, POOH, run mouse hole sock, break off bit & flt. Sub Pick up 17-1/2" bit & BHA, RIH, tag bottom @ 16 metres. Pre- Spud check, Hazard Hunt, sound alarm, muster drill, safety meeting, spud well @ 08:00hrs on 8th Sept.2006. Drill 17-1/2" surface hole f/ 16m > 48metres (Dylwyn came in @ 28 met. + -) Circ. & Totco survey @ 47 met., = 1/2 deg. Drill f/ 48 met. > 180 met., Sweep LCM pills as required (spot LCM pills on bottom while making connections) Circ. w/ reduced pump while building mud volume. Spot LCM pill on bottom, run MSS survey @ 131 met. = 1 deg., N25E, AZI = 32. Drill f/ 180met. > 209 met.
09.09.06	307.0m	Drill f/ 209 met > 307 met., pump LCM sweeps, excessive sand over shakers & losses. Sweep Hi Vis & Circ. Bottoms up x 2, spot 30bbls Hi Vis / LCM on bottom. Run MSS survey @ 259 met. = 1 deg., S80W, AZI = 267. Wiper trip to bit, hole good, hole took additional 16bbls mud for trip, lay out 17-1/2" stab, RIH, no fill. Circ. bottoms up, shakers clean POOH, lay out bit. Clear rig floor. Rig to run 13-3/8" casing. Safety meeting. Run 27 jnt's x 13-3/8" x 54.5lb/ft x K-55 x BTC casing,set shoe @ 304met.(#2 jnt's w/ thread damage, dress same). Circ. bottoms up & shakers clean, hold safety meeting, rig up Hallibuton equip., raise permit, pump 60bbls preflush water ahead. Head up Halliburton, load plugs, pump 10bbls water, pressure test lines to 4000psi, ok, release bottom plug, pump 10bbls water. Mix & pump 148bbls (388sx) Lead cmt. @ 12.5ppg

10.09.06	307.0m	Followed by 79bbls (380sx) tail, release top plug, displace w/ 150bbls water, bump plug w/ 650psi, press.to 1300psi f/10 min.,good test. "Wait On Cement", no cmt. to surface (flush riser, rig down flow line, cut & lift riser,welder cut & split conductor.) (fluid level down 5m) Dig out cement floor in cellar, for welder to cut conductor below 13-3/8" csg. collar for installation of Braden Head. Back out landing jnt Lay out riser, attempt to install Braden Head, thread galled on pin end up. Re-dress same, install B.H., chain tong up same. Run plumb bob thru rotary table, centre B.H. Welder install centralised "support" brackets on 20" conductor, rig up & torque up B.Hd. Make up 15m.x 1" stinger, run between 20" conductor & 13-3/8" csg, Haliburton perform cmt. top up job, 30bbls @ 13.0ppg. Rig down. Nipple up spacer spool. Skid over 13-5/8" BOP, land & nipple up same & choke manifold. Close blind rams, pressure test csg. / Braden Head / spools & BOP to 1300psi for 10mins, surface equip. 200psi low > 5000psi high. BOP accumulator test. Install Bell nipple & flow line, clear rig floor.
11.09.06	310.0m	Complete cleaning drill pipe on racks, tally same. Hold PJSM & review JSA, pick up stands of drill pipe for next 12-1/4" section of hole & rack in mast. Rig Service. Make up 12-1/4" BHA, RIH, break circ. w/ water, tag float @ 291m (no cement above float collar). Sound alarm. Shut in well, drill crew to rig floor for a "Drill", circ. thru choke w/ 30spm @ 150psi, via choke manifold to poor boy. Drill on float collar with water via short system. Tesco top drive failed due to low voltage turbo shut downs & shut downs for hot oil shuttle valve. Re-set turbo's & re-adjust oil shuttle valve. Cont. drill, shoe track, shoe & rat hole to 307m. Drill 12-1/4" hole f/ 307m to 310m w/ new KCL / PHPA mud. Circ. & condition 8.7ppg mud in & out. Perform F.I.T. @ 13-3/8" shoe, depth = 304m (997ft) = 170psi > mud wt. = 8.8ppg > EMW = 12ppg.
12.09.06	883.0m	Take SCR's. Drill 12-1/4" hole f/ 310m to 450m (slight seepage losses @ 380m, 10bbls/hr, add LCM, ok). Circ. & survey @ 400m, 1-1/4 deg., N21W, AZI = 346. Drill f/ 450m to 495m. TDS failed. Lost high / low RPM. Fault find, 20amp fuse blown in 24volt drillers panel, replace fuse (Work pipe during repairs). Drill f/ 495m to 594m, ream each stand twice due to last survey. Circ. & survey @ 544m, 3/4 deg., N20E, AZI = 27. TDS failed, fault find same. ESM vaults low, unable to start engine, change fuses, all ok (Work pipe during repairs). Drill f/ 594m to 739m. Circ. & survey @ 690met., 1/2 deg., S60W, AZI = 247. Drill f/ 739m to 883m. Sweep hi vis & circ. bottoms up. Survey @ 834m, 1/4 deg., N60W, AZI = 307. Pump slug, flow check. Wiper trip, tight hole f/ 854m to 835m, max over pull = 25k, re-wipe section.
13.09.06	1248.0m	Wiper trip back to 13-3/8" shoe @ 304m, hole good. Rig service. Slip drilling line. RIH f/ shoe to 854m. Break circ., wash & ream f/854m to 883m (1m. fill). Drill 12-1/4" hole f/ 883m to 1028m. Circ. & survey @ 978m, 1 deg., N60E, AZI = 67. Drill f/ 1028m to 1143m. Circ. & survey @ 1094m, 1-3/4 deg., N18E, AZI = 25. Drill f/ 1143m to 1248m, T.D. 9-5/8" csg. depth (Note; f/ 1150 met., ROP dropped f/ 28mph down to 4mph > 13mph)

14.09.06	1255.0m	Drill 12-1/4" hole f/ 1248m to 1255m. Pump sweep, circ. hole clean, (sample up = 80% silt > 20% sand for casing seat). Survey @ 1200m, 1-1/2 deg., N25E, AZI = 32. Wiper trip back to 864m, intermittent tight hole, max 35k over pull, wipe stand thru. each section, ok. RIH, to 1220m, hole good, hung up @ 1221m. Wash & ream f/ 1221m to 1225m, 1/2 m fill. Pump sweep, circ. hole clean. Pump slug, POOH, lay out 12-1/4" stab, bit, & #2 x 8" dc's, clear rig floor (top stab. = 1/16" u.g. > bottom = 1/4" u.g. > bit = 1/16" u.g). Rig to run 9-5/8" csg. Change out rams to 9-5/8". Run cup tester, press. test BOP doors to 1200psi, ok. Lay out cup tester. Safety Meeting. M.U. shoe jnt., fill w/ mud, check flow thru. Make up float, check flow thru. Run to 13-3/8" shoe, break circ. Run to 1229m, wash to 1241m.
15.09.06	1255.0m	Cont.wash f/1241m to 1252m, (run a total 105 jnt's x 9-5/8" x K55 x 36lb/ft x BTC csg), set shoe @ 1252m. Circ. prior to cmt. Job. Load cmt. plug in Halliburton head. Rig up chicksans, Safety meeting. Head up Halliburton, pump 50bbls water w/ rig pump, pump 5bbls w/ Hali.test lines to 4000psi, ok. Release bottom plug, pump 5bbls water. Mix & pump 297bbls (783 sx) lead cmt. @ 12.5ppg, followed by 31bbls (148sx) tail. Displace with rig pump 314bbls mud. Bump w/ 2000psi, close lo-torque valve f/ rig pump, press.up to 2800psi w/ HOWCO for 10min, ok. Bleed back 3bbls, flt. Holding. Flush BOP w/ water, monitor well. Rig down Howco & spacer spool. Lift BOP, set slips, rough cut csg. @ 8" above B.H. Lay out csg.& cmt.head. Attempt to lower BOP back onto spacer spool. Chain block failed, BOP cocked. Rig up sling to blocks. Llift & level BOP. Lower same onto B.H. Replace chain block. Lift BOP to inspect 9-5/8" csg. Cut off stub. Noticed top 8" cut off section slightly out of round. Caliper @ 5-1/8" sect., ok. Final cut csg. stub to 5-1/8" & dress same, install "B" section, press. test same, install DSA & BOP (fit 5" liners to mud pumps).
16.09.06	1255.0m	Cont. nipple up BOP, riser & flow line, change pipe rams to 4-1/2", function test pipe rams. Make up combination tool test plug. RIH & set same, pressure test BOP, 200psi low & 2800psi high. Conduct accumulator test. Pull comb. tool. Close blind rams, press. test same to 2800psi. Reverse comb. tool, run & set wear bushing, pull & lay out tool. Rig Service. Hold PJSM, lay out 8" dc's. Make up bit, DSX519M & BHA. RIH to 535m. Adjust Crown -Omatic Cont. RIH p.u. singles d.p. to 1104m. Conduct"Well Control Drill", close annular, sound "Muster Alarm". Circ.thru adjustable choke, holding back press.w/ choke, via Poor Boy. Cont. RIH, picking up singles d.p. to 1200m. Slip & cut drilling line. Break circ. wash to top of float @ 1239m. Drill float, shoe track & shoe @ 1252m, rat hole to 1255m.
17.09.06	1778.0m	Drill 8-1/2" hole f/ 1255m to 1258m. Circ. hole clean & condition mud. Pull inside shoe. Conduct leak off test, 1000psi w/ 9.1ppg = EMW of 13.7ppg. Drill f/ 1258m to 1374m. Rig service. Circ. & survey @ 1362m, 1 deg., N70E AZI = 77. Drill f/ 1374m to 1518m. Circ. & survey @ 1507m, 3/4 deg., N65E, AZI = 72. Drill f/1518m to 1663m (2 x 108spm = 454gpm) > (454gpm x 0.288 = 131rpm @ bit) + (rotary = 75rpm) = (131rpm + 75rpm = 201rpm). Circ. & survey @ 1652m, 2.25 deg., N25E, AZI = 32. Drill f/ 1663m to 1778m (only drilled 115m. to re-check deviation).

18.0906	2125.0m	Circ. & survey @ 1767m, 3 deg., N15E, AZI = 22. Drill f/ 1778m to 1865m (control drill due to deviation) (only drilled 87m. to re-check deviation). Circ. & survey @ 1854m, 3.25 deg., N10E, AZI = 17. Drill f/ 1865m to 1991m (drill ahead) (Laira formation top came in @ 1968met). Control drill @ Geo. request @ 20mph f/ 1991m to 2010m. Circ. & survey @ 1999m, 3-3/4 deg., N35E, AZI = 42. Control drill @ Geo. request f/ 2010m to 2077m (reduce pump str./gpm f/ 453gpm to 360 w/ control drilling to prevent washing out formation). Drill ahead 8-1/2" hole f/ 2077m to 2125m.
19.09.06	2365.0m	Drill f/ 2125m to 2154m. Sweep hi vis. Circ. Run survey @ 2142m, 3-1/4 deg., N25E, AZI = 32. Flow check, wiper trip to 9-5/8" shoe, hole slick, RIH. Light wash & ream last stand to bottom, f/ 2127m to 2154m. Drill ahead 8-1/2" hole f/ 2154m to 2212m. TDS failed. Circ. whilst fault find. Found load nut adjustment bolt hole elongated, which allows the load to come in contact with the quill. Contact TDS main office to verify problem, instructed to drill ahead. Drill f/ 2212m to 2299m. Rig service. Survey @ 2288m, 5 deg, N10E, AZI = 17. Drill f/ 2299m to 2365m.
20.09.06	2485.0m	Drill 8-1/2" hole f/ 2365m to 2386m. Circ. & survey @ 2374m, 6 deg., N2E, AZI = 9. Circ. hole clean. Flow check, slug pipe, POOH, hole slick, break off bit, = in gage & good condition, clear rig floor. Make up 8-1/2", RR #3, PDC bit, & pendulum assembly BHA (stab. @ 27.56met) (90 ft). RIH, BHA to HWDP. Pick up # 57 single jnts of 4-1/2" d.p., RIH to 850m. Cont. RIH stands d.p. to 9-5/8" shoe, "Hold Kick Drill". Break circ. Slip drilling line Cont. RIH stands of d.p. (hole good). Break circ. Light wash & ream last stand to bottom @ 2386m (5m. of fill). Drill 8-1/2" hole f/ 2386m to 2485m.
21.09.06	2753.0	Drill 8-1/2" hole f/ 2485m to 2497m. Circ. & survey @ 2488m, miss run. Drill f/ 2497m to 2526m. Circ. & survey @ 2517m, 5-1/2 deg., N10W, AZI = 357. Control Drill 8.5" f/2526m to 2613m. Service rig. Control drill 8.5" f/2613m to 2642m. Circulate and run directional survey at 2633m Dev 6.5Deg N35W uncorrected. Control drill f/2642m to 2728m with 5k WOB and 227RPM. Circ & survey @ 2719m Dev 6.25Deg N45W. Control drill 8.5" f/2728m to 2753m with 5 k WOB and 227RPM.
22.09.06	2934.0	Control drill 8.5" f/2753m to 2815m. Circ & survey @ 2806m Dev 5.25Deg N53W. Control drill 8.5" f/2815m to 2844m. Lubricate rig. Control drill 8.5" f/2844m to 2902m. Circ & survey @ 2893m Dev 4.75Deg N50W. Control drill 8.5" f/2902m to 2931m. Tesco attempt to fix RPM sensor. Control drill 8.5" f/2931m to 2934m.
23.09.06	3002.0	Control drill 8.5" f/2934m to 3002m . Circulate hole clean. Directional survey at 2989m-6.25Deg N45W. Flow check, pump pill, POH to 2324m. Flow checking at 5 and 10stand out RIH to 2989m, precautionary wash to bottom, 4 m fill. Circulate hole clean. Flow check, pump pill, POH to log. Flow checking at 5 and 10stand shoe and BHA. Layout stab and monel. Service mud motor and layout. Clear rig floor, hold PJSM. Rig up Schlumberger. Makeup Run 1# HALS/Sonic/GR, tools in hole at 23:10hrs.
24.09.06	3002.0	Continue log run 1#. Caliper failed at start of main run section. POH, tools at surface at 02:30am. no spare. Log without caliper, rig down. Makeup cleanout BHA and RIH to shoe. Fill pipe at BHA and shoe. Slip & cut drilling line. Continue to RIH to 2989m, precautionary wash to bottom., hole good, no fill. Circulate and condition mud and hole. Wireline check survey at 2997m. 7Deg N40W. POH one single and wireline Check survey at 2987m 5 3/4Deg N30W. Layout drill string to 975m. Flow check at 5std, 10std and shoe.

25.09.06	3002.0	Continue to layout pipe to 764m. Repair forklift transmission selector, unable to clear pipe racks. Continue to layout pipe, flow check. Layout BHA. Change rams and pressure test bonnet seal. Rig up to run 7" casing, clear floor. Safety Meeting, M/U float and shoe and run 7" casing to 440m. Run casing to 2988m. Wash casing from 2988m to 2998m. Circulate clean hole.
26.09.06	3002.0	Circulate and work casing, pump pre-flush. Head up Halliburton and surface lines. Pressure test surface lines to 4000psi. Mix and pump cement. Lead 157bbls @12.5ppg. Tail 22.3bbls @15.8ppg. Displace with rig pumps. Plug NOT bumped. Install slip and seal assembly. N/D BOP rough cut and dress casing stub. Install C section. P-test C section to 5000psi, Install DSA and change rams to 3.5". N/U BOP, install bell nipple and flowline. Pressure test choke manifold and lines. Prepare rig floor. RIH 3-1/2" drill pipe, open end to 812m (makeup in stands for top drive drilling).
27.09.06	3002.0	Continue to RIH DP F/- 812m T/- 1032m. POOH and rack back stands (35 stands). Install HCR line. Load racks with BHA and strap and caliper. Pressure test BOP 200/4800psi (annular 200/2000psi). Install wear bushing. M/U BHA and RIH t/-196m. Test survey equipment (fail, won't drift DCs). POOH F/- 196m T/- 17m to relocate stab. RIH F/-17m T/- 188m. Test survey equipment. PJSM, Pick up from catwalk and RIH F/- 188m T/- 532m. Tesco downtime: Centre top drive torque track. Fire drill and test ESDs. Tesco downtime: change dies. RIH F/- 532m T/- 1775m.
28.09.06	3103.0	RIH F/-1775m T/-2953. Slip 66ft drill line. Wash down F/- 2953m to TOC@ 2963m. Drill cement to 2981m. Circ and clean hole. Pressure test casing to 3500psi for 10mins. Perform Koomey function test. BOP drill and circ through choke. Well controlled in 29secs. Drill cement F/- 2981m T/- 3002m. Tag float @ 2985m, Tag shoe at 2998m. Drill new 6" hole F/- 3002m T/-3005m. Circ bottoms up. LOT with 9.5ppg mud L/off @ 2275psi EMW 13.8ppg. (Program was for FIT to 3300psi but leak off prior). Drill 6" hole F/- 3005m T/- 3038m Circulate then run directional survey @ 3020m 6.75deg N35W uncorrected. Drill F/- 3038m T/-3103m.
29.09.06	3230.0	Drill f/-3103m to 3125m. Circulate and survey at 3108m 8.5DegN25W. Drill F/-3125m to 3156m. Hi gas 4500units. Flow check after gas cut mud and 6 bbl gain to surface. Well not flowing. Wait up to 9.8ppg with KCL. Drilled F/-3156m T/-3211m. Circulate and survey at 3194m 9.25DegN15W. Drill F/-3211m T/- 3230m. Suspend drilling and wait for directional drilling equipment. Circulate bottoms up. POOH F/-3230m T/- 2981m (shoe). Lubricate rig Wait on directional drilling equipment to steer to target.
30.09.06	3230.0	Wait on Directional Drilling Equipment to steer to target. RIH F/-2981m T/-3230m (TD). Circulate hole clean. Flow check, pump slug, POH to make up Dowell Schlumberger directional equipment. Service mud motor and layout. Lubricate rig. Wait on directional drilling equipment to steer to target. Prepare directional drilling equipment. M/U 6" milled tooth bit and direction assy. Set @ 1.5 deg. Function test mud motor. RIH from surface to 2980m. Slip and cut drilling line. Flow check and RIH F/- 2980m T/- 3209m. Circ bottoms up.(3500units gas). Work torque from string. Tight hole F/- 3209m T/-3200m. Max overpull 300k. Tool face orientation survey @ 3198m 10.3 deg N20W uncorrected.

01.10.06	3290.0	Wash from 3200m to 3230m. Directionally drill from 3230m to 3242m. Sliding and rotating as required. Circulate and survey at 3227m. 9.7Deg N9.3W corrected. Directionally drill from 3242m to 3253m. Sliding and rotating as required. Circulate and survey at 3236m 11.75Deg N8.3W corrected. Directionally drill from 3253m to 3267m. Sliding and rotating. Circulate and survey at 3256m. 14.5Deg N2.7E corrected. Reset toolface and run orientation survey, 15.5Deg N4.7E. Directionally drill from 3267m to 3287m sliding and rotating. Circulate and survey at 3276m 18.5Deg N7.3W corrected. Directionally drill from 3287m to 3290m sliding.
02.10.06	3306.0	Directionally drill from 3290m to 3295m sliding and rotating as required. Flow check after hi gas (4337 units, no pit gain), circulate out gas and raise mud weight to 10.2ppg. Directionally drill from 3295m to 3306m, sliding and rotating as required. Circulate and survey at 3294m 20.5 Deg N12W. Circulate hole clean. Flow check, pump pill, POH with flow checks at 5 std shoe and BHA. Break and layout float sub, orient sub, NMDC. Service mud motor and layout. Rig up and run 15 jts cement stinger and diffuser. Continue to RIH with 3.5" drill pipe to 3224m. Circulate BU and spot 100 mtrs+- HI Vis pill. POH to 3128m to run cement kickoff plug. Cement plug # 1 from 3128m to 3028m, 76 sx HTB mixed at 16.5ppg with additives as per cementing program. POH slowly to 2985m. Circulate out.
03.10.06	3306.0	Continue to circulate BU. POH to surface, layout cement stinger pipe clean. Makeup bit, bit sub and RIH to shoe. Circulate BU and check trip gas. Wait on kick off plug to harden, slip drill line, change out counter balance piston on top drive. RIH tag top of plug at 3037m, pull back to shoe. Wait on cement and arrival of MWD equipment and personnel.
		Start Glenaire-1 /ST1
04.10.06	3041.0	Wait on cement and arrival of MWD equipment and personnel. RIH to 3037m. Polish cement plug from 3037m to 3041m. Circulate BU, flow check and pump slug. POH to make up directional assembly. Makeup bit, mud motor, float sub and monel. Rig up MWD equipment (arrived on location at 13:30 hrs). Rig up MWD and run cables. Hold PJSM and makeup MWD, Test mud motor and MWD at 47.3m. Continue to RIH filling string every 30std.to 2982m.
05.10.06	3041.0	RIH from 2982m to 3041m. Unreadable signal from MWD tool, troubleshoot and check surface equipment. Consult with Houston Scientific Base. Unable to gain signal. Flow check, pump slug and POH to check for signal-depth relationship. Signal at 850m. Download MWD data at surface, change out gap sub, Reset MWD. RIH to 3041m breaking circulation every 30std. Circulate and rotate slowly 1m off bottom while waiting on MWD to start transmitting signal. No signal. Troubleshoot to regain signal. No success.
06.10.06	3041.0	Troubleshoot to regain signal. No success. Flow check, pump slug and POH to check for signal-depth relationship. Signal at 1335m. Boost watts from 8 to 50, good signal RIH. RIH to 2000m +- monitoring signal. Signal lost at 2000mtrs. Change earthing position on stack. Check out surface earthing areas, all OK. POH to surface. Layout directional equipment Make up 6" conventional BHA and run safety string to 256m. Slip and cut drilling line Wait on MWD from Anadrill (Schlumberger).
07.10.06	3041.0	POH with safety string and layout bitsub and bit. Wait on MWD tools, on location at 03:30, pick up bit, mud motor, monel and stand back. Rig up MWD tools, RIH, install MWD tools in string. Tools not returning signal to surface, trouble shoot, change out surface junction box, tools working. RIH to 3041m breaking circulation every 30std.

08.10.06	3072.0	Orient tool face time drill to kickoff. Drill to 3048m. No formation in samples. 100% cement.WOB 2k. Slide from 3048m to 3058m. No formation in samples 100% cement returns. Work pipe to undercut hole and form a ledge from 3048m to 3058m. Time drill at 1m/hr to 3062m 100% cement, no formation in samples (sliding). Time drill at 0.5m/hr to 3064m (sliding) 30% formation. Time drill at 1m/hr to 3066m 90% formation in samples (sliding). Drill with 12/13k on bit sliding to 3068m. Drill with 60 RPM on rotary to 3069m. Check trip to shoe, hole OK above. Drill ahead to 3070m rotating. Drill ahead to 3072m rotating.
09.10.06	3119.0	Drill ahead to 3076m., sliding. Drill ahead to 3097m., rotating. Rig Service. Drill ahead to 3106m., sliding. Drill ahead to 3110m, rotating. Drill ahead to 3116m., sliding. Drill ahead to 3119m., rotating. Circulate hole clean, survey. POH for bit change, bit at 1996m at midnight.
10.10.06	3119.0	Change bit and cycle MWD. RIH to 264m. Topdrive hit monkey board while in extended position. Board sustained visual damage, as did top drive gooseneck. Wait on mast inspector. Inspect board. All major support pins, padeye and structural support beams on monkey board OK. Top drive gooseneck non repairable. Wait on part for top drive, unable to use change out and use kelly due to casing-kelly sizing. POH and rack string in derrick in preparation to test BOP's.
11.10.06	3119.0	Pull wear bushing. Test BOP's and manifold to 200psi lo and 4800psi Hi and accumulator performance test OK. Run wear bushing. Wait on gooseneck for top drive, write JSA for top drive. Wait on gooseneck for top drive, review JSA for top drive and RIH with safety string to 257m. Wait on gooseneck for top drive, monitoring well, well static.
12.10.06	3119.0	Wait on gooseneck for top drive, monitoring well, well static. Confirmed ETA of Gooseneck for 16:30hrs in Penola. Review JSA & hold safety meeting regarding trip out & in hole POOH f/ 264m. Make up 6" bit, BHA ,mud motor & MWD, RIH to 57m. Test MWD, fault find w/ cables & receivers (Assemble Gooseneck while cont. to fault find MWD problems). Schlumb. ready @ 19:30hrs. Hold PJSM and assemble Gooseneck to Top drive, nipple up Kelly hose & pressure test same. RIH f/ 57m to 264m (Ensign back in operation f/ 264m, refer to 05:00hrs on 10th Oct). Cont. RIH f/ 264m to 1918m, break circ.
13.10.06	3169.0	Cont. RIH f/ 1918m to 3054m, break circ. Light wash f/ 3054m to bottom @ 3119m (2m fill). Drill ahead f/ 3119m to 3127m, rotating 60rpm (880 units gas, slight flow @ flow line, wt. up f/ 10.1ppg to 10.2ppg +). Drill f/ 3127m to 3135m, rotating 60 rpm. Survey @ 3120m = 2.04 deg., AZI =111.74. Set tool face, slide f/ 3135m to 3140.5m. Drill f/ 3140.5m to 3143m, rotating 60 rpm. Drill f/ 3143m to 3164m, rotating 60 rpm, Flow 250gpm (132rpm), 12-14WOB. Take SCR's @ 3164m make connection, take survey @ 3148m, orientate string to slide. Slide f/ 3164m to 3169m. 12-14 WOB, 250gpm.

14.10.06	3182.0	Slide f/ 3169m to 3170m. Drill f/ 3170m to 3182m, (ROP dropped off, have 4 deg. dev. @ bit) >>>> rotating 60rpm, flow 250gpm (132rpm), WOB =12 > 14. Circ. bottoms up, back ground gas = 30 units. Pump slug, flow check, ok, POOH to shoe, flow check, slight flow, POOH another # 5 std's to 2729m, flow check, flow continued. RIH to bottom @ 3182m. Circ. bottoms up & wt. up f/ 10.3ppg to 10.5ppg + w/ salt (max gas from bot's up = 4154 units with slightly oil cut mud). Pump slug, flow check, ok, POOH to shoe, flow check, slight flow, observe for 15 minutes, intermittent flow. Cont. POOH flow check every 10 std's. Continue to POH, check motor and breakout bit. Layout motor, pick up new motor and make up 6" PDC bit, DSX516M, w/ 5x15 jets. RIH to 57m, test MWD, 2x59spm, 890psi. RIH to 1057m, break circulation, flow check.
15.10.06	3207.0	Cont. RIH f/ 1057m to 1948m. Break circ. flow check, slight flow, 1/2bbl gain, mud aerated. Cont. RIH to shoe @ 2998m. Break circ. & circ. bottoms up, 600 units of gas, monitor well. Slip drilling line. Cont. RIH to 3154m, break circ., take SCR's. Wash last stand to bottom @ 3182m, take check survey. Drill f/ 3182m to 3207m, rotating 60rpm, 250gpm (133rpm), (total 193rpm), WOB = 5 > 7 (bottoms up f/ 3182m = 3445 units). At 3207m, gas peaked @ 4345units, stop drilling. Circ. out, oil cut mud over shakers, gas leveled out @ 4000 units. Circ.& wt. up mud f/ 10.6ppg, gained 28bbls (Geo. estimates oil / gas came f/ aprox 3192m)(note; 60bbls gained f/ salt added to sys). Shut in well @ 08:00hrs, circ. out bot's up thru. Choke. Gained = 26bbls, cont. wt. up to 10.8ppg, (gas = 90 units)(salt saturated mud). Open annular, well static, attempt to circ. long way, can't circ..Check top Drive. IBOP valves ok. Brk. off stand, circ., ok, attempt to circ. Attempt to clear blocked string, no success, flow check, ok. POOH to shoe, hole slick, flow check, ok. Attempt to clear blocked string, no success, flow check, ok. POOH to clear obstruction in drill string, flow check every 10 std's. Found salt packed off from 2nd. stand of HWDP. Break off stands of HWDP & DC's & clear salt f/ same. Check & clear salt f/ MWD, check rotation on motor, no go, lay out motor. Close blind rams, line up pumps on water & flush out choke manifold & poor boy. Transfer mud in tanks, check same, clear rig floor. Pick up (Beach) Transco P100XL mud mtr., make up bit, orientate & calibrate mtr. Test MWD tools & fault find. RIH BHA and drift same, drift lodged in DC - flushed thru. break circ @ top hwdp 256m circulate clear.Cont. RIH to 977, brk. circ.
16.10.06	3267.0	Cont. RIH , break circ. every 25 std's, run to shoe @ 2998 m. Slip & cut drilling line. Rig service, circ. bottoms up while service rig, 2491 units gas on bottoms up. Cont. RIH, light wash & ream f/ 3007m to 3207m, max gas on bottoms up = 300 units. Drill ahead f/ 3207m to 3217m, rotating 60rpm, 250gpm = 130rpm, WOB = 3k > 5k, gas peaked @ 4956 units. Stop drilling. Circ. out gas, circ. w/ continuouse 4500 units for 10 minutes. Commence to wt. up f/ 10.8ppg + to 11.00ppg w/ barite. Drill ahead f/ 3217m to 3221m (intermittent gas peaks f/ 2000 to 4500 units). Circ. & survey @ 3206.34, > 1 deg., > AZI = 172.45 (note; angle dropped due to additional circulating over last #2 days). Slide f/ 3221m to 3225m, motor stalling out, pressure increase, tool hanging up, suspend sliding operation. Drill f/ 3225m to 3243m, rotating 60rpm, WOB = 2 to 3k. Recycle tool & orientate tool face. Slide f/ 3243m to 3250m, 250gpm = 132rpm, (controlled ROP & WOB). Take SCR's, flow check, make connection, conduct survey @ 3234m, 0.60 deg., AZI = 350.93. Drill f/ 3250m to 3265m, rotating 60rpm, 250gpm = 130rpm, (total 190rpm), WOB = 2k > 5k. Survey @ 3249m, 0.92 deg., AZI = 242.06. Slide f/ 3265m to 3267m, w/ controlled WOB & ROP, due to motor stalling & aggressive drilling.

17.10.06	3361.0	Slide f/ 3267m to 3279m, w/ controlled WOB & ROP, due to motor stalling & aggressive drilling. Survey @ 3263m, 1.48 deg., AZI = 232.23. Drill f/ 3279 to 3300m, rotating 60rpm, 250gpm = 130rpm, WOB = 3k > 4k (each conn. gas peaks to 4500 units, w/ traces of oil in mud). Survey @ 3282.64, 2.6 deg., AZI = 228.60. Slide f/ 3300m to 3306m, 250gpm = 132rpm. Drill f/ 3306m to 3308m, rotate 70rpm, 250gpm = 130rpm, (total 200rpm) WOB = 3k. Rig Service & Survey @ 3292.43m, = 1.86, AZI = 259.15. Drill f/ 3308m to 3327m, rotating 70rpm, 250gpm = 130rpm, (total 200rpm), WOB = 2 > 3k. Circ. & survey @ 3311.56m, = 2.89 deg., AZI = 223.6. Drill f/ 3327m to 3356m, rotating 70rpm, 250gpm = 130rpm, (total 200rpm) WOB, = 3k. Circ. & survey @ 3341m, 1.99 deg., AZI = 256.98, orienate string / MWD for slide. Slide / 3356m to 3361m.
18.10.06	3418.0	Slide f/ 3361m to 3362m. Drill f/ 3362m to 3366m, rotating. Survey @ 3365m, 1.86 deg., AZI = 275.69. Drill f/ 3366m to 3386m, rotating 70rpm, 248gpm = 125rpm (total = 195rpm) WOB = 3k. Survey @ 3370m 3 deg., AZI = 232.77. Complete survey, work pipe, 40k over pull, hole sticky, circ. bottoms up, 4497 units of gas. Flow check, slug pipe, Wiper trip to shoe (14 stands), intermittent 10k to 15k overpull, jar free 50k overpull @ 3259m. Cont. POOH, ok. RIH to 3200m, light wash & ream thru 3259m. Cont. W/R to botttom, 25k overpull on bottom, wash, work & ream f/ 3383m to 3386m. Recycle tool & orientate tool face. Slide f/ 3386m to 3391m, 248gpm = 125rpm, (Lag time on connection gas corresponds to a depth @ 3192m = 4240 units). Drill f/ 3391m to 3394m, rotating 70rpm, 252gpm = 131rpm, (total 201rpm) WOB = 3k. Survey @ 3378.51m, 2.48, AZI =244.84 (take SCR's w/ 11.3ppg mud wt.). Drill f/ 3394m to 3413m, rotating 70rpm, 252gpm = 131rpm, (total 201rpm) WOB = 3k > 4k. Survey @ 3398.34, 3.21 deg., AZI = 204.45. Slide f/ 3413m to 3418m, 244gpm = 127rpm.
19.10.06	3507.0	Slide f/ 3418m to 3419m, 244gpm = 127rpm. Drill f/ 3419m to 3423m, rotating 60rpm, 244gpm = 127rpm (total 187rpm) WOB = 3k > 4k. Survey @ 3407.21, 2.92 deg., AZI = 211.58. Drill f/ 3423m to 3443m, rotating 60rpm, losing mud @ 20bbls/ hr f/ 3440m, add LCM. Survey @ 3427.02, 2.99 deg., AZI = 169.22. Drill f/ 3443m to 3452m, rotating 60rpm. Take SCR's, make connection & hold "Safety Meeting" due to losses to the hole @ 20bbls.hr (med. / fine sands @ 3440m). Survey @ 3436m, failed due to pop off relief valve on mud pump. Drill f/ 3452m to 3480m, rotating 60rpm, 240gpm = 125rpm, (total 185rpm), WOB = 4 > 7k. Survey @ 3464.60m, 1.56 deg., AZI = 157.28. Drill f/ 3480m to 3507m, rotating 60rpm, 240gpm = 125rpm, (total 185rpm) WOB = 5 > 9k. Circ. bottoms up. Survey @ 3491.68m, 1.37 deg., AZI = 50.64 (Projection to bottom @ 3507.00, 1.2 deg., AZI = 40). Flow check, slug pipe, POOH to shoe (intermittent 10k to 25k for first 10std's to 3220m). Flow check, cont. POOH to 2000m. Lost 10bbls to the hole, while POOH to 2000m. Spot 60bbls 13.5ppg mud (493m) (2000m back to 1507m). Cont. POOH to jars lay out same & pick up new set.S/N 1400-222A.

20.10.06	3563.0	Break out bit. Set motor to 0 –degrees. Lay out monel & MWD (lost additional 25bbls after spotting 13.5ppg pill @ 2000m while POOH). Make up RR4 bit, DSX516, s.n. 114752, install totco ring. RIH to 1122m, break circ. Cont. RIH to 2580m , mud leval dropped 2m. Circ.out weighted 13.5ppg pill (lost 9bbls while RIH to 2580) (lost additional 27bbls while circ. out weighted pill). Return to slug tank, nil gas. Slip drilling line. Cont. RIH to shoe @ 2998m, slowly. Circ. bottoms up. Hold "Safety Meeting" regarding drilling ahead into "Pretty Hill" Max gas on bottoms up f/ shoe = 690 units. RIH slowly f/ shoe to 3487m. Light wash & ream f/ 3487m to bottom @ 3507m, run centrifuge, reduce mud wt. f/ 11.4ppg + to 11.4ppg. Circ. bottoms up, max gas 3040 units (f/ 3192m), not losing any mud to hole. Mud wt. = 11.4ppg in & out (take SCR's). Drill f/ 3507m to 3563m, rotating 60rpm, 248gpm = 130rpm, (total 190rpm), WOB = 5k > 9k (reduce mud wt. f/11.4ppg + to 11.2ppg).
21.10.06	3572.0	Drill F/3563m to 3564m. Circ. and work pipe. Flow check & pump pill. POOH 50k over pull f/ 3510m > 3505m, 25k over pull f/ 3505m > 3190m, 15k over pull f/ 3190m > 2998m. Flow check @ shoe (ok). Flush out mud motor with water, break off bit, clear rig floor. Rig repairs (draworks electrical panel problem). Make up Hyc., 6", bit, DSX111GJW (# 7 blade) s.n. = 112300, w/ 4x20 & 3x10 jets. RR mud motor. RIH to shoe, break circ. Slip drilling line. Rig service. Service top drive, repair faulty elect. wire for "max torque" in top drive box. Cont. RIH, to 3567m. Break circ.,light wash & ream f/ 3507m to bottom @ 3564m (ream thru. 3510m several times to clean up 50k overpull section). Drill f/ 3564m to 3572m, rotating 60rpm, 248gpm = 130rpm (total = 190rpm), WOB = 4k to 13k (av. ROP = 1.23mph).
22.10.06	3612.0	Drill f/ 3572m to 3578m, rotating 60rpm, 248gpm = 130rpm (total = 190rpm) WOB = 12k to 15k (av. ROP = 1.1mph). Increase top drive RPM. Drill f/ 3578m to 3600m, rotating 70rpm, 248gpm =130rpm (total = 200rpm) WOB = 9k to 14k (av. ROP = 2mph). Circ. & rig service. (Kaolinitic sandstone f/ 3593m to 3600m, intermittent ROP f/ 4 to 6mph w/ oil). Drill f/ 3600m to 3612m (14k to 15k) rpm 200 (av. ROP = 1.84mph) (max torque on bottom = 6200 off bottom = 5600).
23.10.06	3648.0	Drill f/ 3612m to 3641m (av. ROP = 1.57mph). (reduce mud wt. f/ 11.2ppg to 11.1ppg). Circ. hole clean. 6 std Wiper back to 3487m, max 65k over pull f/ 3602m to 3592m, jar free & back ream, intermittent 55k o.p f/ 3554 > 3544 & f/ 3515 > 3506m. Drill f/ 3641m to 3648m (av. ROP = 2.33mph). (max 2811 units gas on wiper trip f/ 3192m).
24.10.06	3688.0	Drill f/ 3648m to 3659m, Varied RPM for ROP optimisation 50-70RPM + 130RPM from motor, (1.3mph), WOB 14-17klbs. Rig service (Max 925 units of gas f/ 3192m). Reduce flow rate to 200gpm > Drill f/ 3659m to 3688m, rot. 65rpm, 200gpm = 104rpm, (total rpm = 169), WOB = 12k (av. 2mph) (1mph f/ 18:30hrs). Attempt connection, tight hole, max 65k o.p., work stand & clean up hole.
25.10.06	3700.0	Pull #2 stands d.p., back to 3630m. Top Drive mud saver key way leaking in upper double ball valve, "while rotating", RIH to bottom. Circ. bottoms up "with out rotation" of top drive POOH to shoe to repair top drive. (intermittent 10k to 25k overpull). Repair top drive, "mud saver, key way leak in upper double ball valve". RIH, hole good. Break circ., wash to bottom, work stand & clean up hole. Drill f/ 3688m to 3700.5m (av. ROP = 1.47mph). Circ. bottoms up. Flow check, POOH 11 std's to 3400m, max 40k o.p., intermittent 10k to 35k overpull. RIH. Circ. bottoms up, cont. until gas dropped off. POOH to shoe. Rig repairs. Carry out electrical repairs to the draworks assignment switch. POOH to 1868m.

26.10.06	3700.0	POOH to 1000m. Present mud wt. = 11.1ppg, spot 60bbls weighted 14.5ppg mud (490m) equiv. mud wt. = 11.6ppg for hydrostatic @ 3192m. Cont. POOH. Flush out Mud motor with water, oil, break off bit, clear rig floor. Rig up to log. Safety Meeting. Run #1 = FMS - GR, run @ 04:50hrs, out @ 12:20hrs (hole in good condition, run to bottom, no fill). Make up tools, logging, run #2 = BHC-PEX-GR, run @ 12:50hrs, out @ 18:10hrs (loosing 1/2 bbl/ hr of mud to annulus). Rig down. Pull W.B., make up comb. test plug. RIH & set same. Press. test BOP, 200psi low & 3500psi high. Conduct accumulator test, set W.B. Make up RR, DSX111, PDC, RIH to 256m.
27.10.06	3701.0	Cont. RIH to 1200m. Slip & cut drilling line. Circ. out the 60bbl x 14.5ppg pill, return to slug tank. Cont. RIH to shoe. Repairs to top drive, fault find electrical wiring for "extend" operation, found & repaired damaged earth wire. Pressure test rig floor surface equipment, 200psi low x 5 min. & 5000psi high x 10 minutes. Circ. out gas f/ shoe, (max 1670 units on bottoms up). Cont. RIH to 3652m. Wash & ream f/ 3652m to 3700m, while taking torque values with top drive off bottom (off bottom RPM = 75, torque =7560 ft/lbs, w/ 2300psi). Drill f/ 3700m to 3701m, WOB = 10k, RPM = 75, torque = 7993 ft/lbs w/ 2400psi, (low gear) (max 3354 units f/ 3192). Circ. bot's up. Slight flow, wt. up f/ 11.1ppg to 11.4ppg, > 15:30hrs, flow increased, wt. up f/ 11.4ppg to11.8ppg @ 19:30hrs = 2750units on bot's up. Low vol. in active tank, trans. 60bbls 11.8ppg LCM to active, reduce pump rate, build volume in pre-mix tank, transfer to active, wt. up to 12.1ppg.
28.10.06	3701.0	Cont. circ., wt. up w/ calcium carbonate to 12.1ppg in & out while building mud volume. Shut down pump, work string for 15 minutes while observing well, slight flow. Circ. bottoms up, 954units gas. Cont. circ. w/ 12.1ppg mud, wait on more weight material to arrive @ rig. Shut down pump, work string for 10 minutes while observing well, slight flow. Circ. bottoms up = 124 units gas. Shut down pump, work string for 10 minutes while observing well, slight flow. Circ. bottoms up = 416 units gas. Shut down pump, work string for 15 minutes while observing well, slight flow. Circ. bottoms up =393 units gas. Shut down pump, work string for 30 minutes while observing well, slight flow. Circ. bottoms up = 470 units gas. Shut down pump, work string for 30 minutes while observing well, NO FLOW, well static. Circ. bottoms up =220 units gas. Shut down pump, work string for 30 minutes while observing well, NO FLOW, well static. Circ. bottoms up = 212 units gas. Shut down pump, work string for 30 minutes while observing well, NO FLOW, well static. Weight up f/ 12.1ppg to 12.4ppg, stop pump for 10 min., circ. bot's up, 315 units gas, spot 15.3ppg mud f/ 3701m back to 3450m, minor losses. Flow check, slight flow, then stopped. Attempt to break top conn., no go. Top drive load nut overheating, causing no rotation, while hot, cooled down, now ok.
29.10.06	3701.0	POOH, flow check every 5 std's, intermittent tight hole f/ 3672m back to 3250m, max o.p. = 65k,. POOH, lay out # 1 stand d.c.'s, lay out PDC bit, make up tricone bit, w/ no jets, rack in mast. Flow check, well static, Rig up. Safety meeting. Make up DLT @ 08:00hrs, run same @ 08:50hrs, tools out @ 12:50hrs, rig down Schlumb. RIH w/ tricone bit w/ no jets to shoe. Circ. bottoms up, 352 units gas to surface. Make up x-o's & torque up same on Baker cement head. Slip drilling line. Rig service. RIH f/2992m to 3394m. Break circ. wash & ream last 10 std's to bottom (f/ 3394m to 3701m) to circ. out weighted 15.3ppg pill mud. Circ. bottoms up.

30.10.06	3701.0	Cont. circ. bottoms up. Flow check (well flowing). Circ.out gas 3670 units. Mix 30 bbl.14.5ppg.& pill and spot on bottom. Flow check and POOH w/ flow checks 1,3,5,10,15 stands out and @ shoe (max o.p.= 60k). Rig up to run 4-1/2" csg. Safety meeting. Pick up jnt. #1, baker lock shoe, & next # 2 jnt's, run 65 jnt's x 4-1/2" x P110 x 13.5 lb/ft csg., Baker hanger & 74 std's 3-1/2" drill pipe to shoe. Rig service. Repair consignment # 3 on drillers control panel.
31.10.06	3701.0	Cont. repairing control panel. Circ. bottoms up f/ shoe, reciprocate pipe, 480 units gas to surface. Cont. RIH stands d.p. to 3550m. Circ. bottoms up, reciprocate pipe, 970 units gas to surface. RIH to 3608m. .Circ. up weighted pill into 7" shoe. RIH, set shoe @ 3694m. Circ. bottoms up, 118 units gas to surface. Pick up "Baker" cement head, make up Haliburton equip., drop ball, pump down, attempt to shear & set slips on hanger, no success. Set liner on bot., shoe @ 3701m, attempt to release setting tool, no success. Re-attempt by increasing press. to 3000psi, ok. Shear out ball seat, @ 3790psi, ok. Circ. hole 80spm @ 1450psi, & hold safety meeting, pump tuned spacer @ 13ppg. Mix & pump 42bbls (143sx) lead @ 13.5ppg, followed by 22bbls (105sx)Tail @ 15.6ppg, (pumped 64bbls, only 13bbls returned). Displace w/ 101bbls mud, bump w/ 1400psi, increase to 3000psi, good test, retuned 1.25bbls, float held (displace 101bbls, only 18bbls returned). Equalise press. on RSB, pull RSB f/ Hanger, ok, circ. clean. Circ. bottoms up, flush top of Hanger, nil cement, lay out cmt. Head. Well flowing. Spot 50bbls 14.4ppg @ top of hanger, observe, slight flow, shut in on annular @ 21:30hrs & monitor well.
01.11.06	3701.0	Cont. w/ well shut in to let cement to set up. Open HCR & Hydril. Well static. POOH to run CBL. Rig up Schlumberger. Change of operation, rig down Schlumb. RIH open ended d.p. to 2793m. Slip & cut drilling line. Take SCR's, circ. bottoms up, 225 units gas, 35spm @ 500psi w/ 12.5ppg mud in the hole. Monitor well, 4bbl loss f/ bot's up, "wait on orders". Shut down pump, monitor well, nil losses, well static. Circ. bot's up @ 32 spm @ 500psi, constant 45 units gas, no increase on bottoms up, 3bbls loss f/ 1500hrs. (Schlumb. prepare equip.for CBL run). Shut down pump, monitor well, nil losses, well static. Cont. circ. @ 35spm @ 500psi (Schlumb.cont. rig up, replace BOP rams, set up pressure equip., re-head cable socket). Rig up Schlumberger.
02.11.06	3701.0	Rig up Schlumb. Run CBL, attempt to release tool, no success. Rig down lubricator, install head catcher release hose (Schlumb. forgot to install hose). Run CBL to 3662m (top of float collar @ 3676m). Correlate tool & log up f/ 3657m. Log up with CBL. Lay out lubricator & tools, rig down. Circ. bottoms up, w/ 12.4ppg mud in & out, 3035 units gas to surface, stop pump, slight flow, circ.while mixing pill. Stop circ. Observe annulus, flowing, spot 40bbls x 14ppg mud with 0.2% biocide @ 2793m, observe well, hole static. POOH sideways to 40 std's in hole, RIH std's d.p. f/ Mast to clear excess d.p. to 2037m. Flow check, flowing, mix & pump 40bbls x 14.7ppg pill @ 2037m, observe well, hole static. Cont. POOH sideways.

03.11.06	3701.0	Cont. POOH sideways to 40 std's in hole. RIH BHA & HWDP f/ Mast to 1564m. Observe well, slight flow. Close Annular for 15 min., nil pressure build up, open Annular, still slight flow. Circ. bottoms up f/ 1564m, spot 40bbls 14.8ppg mud, observe well, hole static. POOH sideways, all tubulars laid out. (lost a total of 20bbls mud in 20 hrs while laying out sideways)(av. 1bbl/hr). Make up combination tool, RIH & retrieve wear bushing. (rig up to run 2-7/8" tbg.) Flush BOP w/ water, close "Blind Rams", change out rams f/ 3-1/2" to 2-7/8". Open Blind rams, "Well Static". Make up tbg. hanger on 2-7/8" tbg.. Run & set same. Press. test rams 200psi low, 2000psi high, annular 1000psi. Pull & lay out tbg. Hanger. Safety meeting & toolbox talk w/ both crews. Flow check, well static. "HAND RIG OVER TO PRODUCTION" M/up completion assy as follows : 2 7/8" re-entry guide, 2 7/8"Owen under balancing disk 4000 psi nominal burst, 2 7/8 X-nipple, 1 jnt 2 7/8" 6.4 # J-55 EUE tbg , 7" x 2 7/8" Baker Oil Tool Hornet mechanical set pkr, 2 7/8" EUE L-10 on/off connector w/ 2.31" X profile. RIH completion assy on 2- 7/8" 6.4 # J-55 EUE tbg from cat walk. Torque set at 2060 ft/lb. Tbg filled with 3% KCL brine every jnt.
04.11.06	3701.0	Cont. Rih completion assy on 307 jnts of 2 7/8" 6.4 # J-55 EUE tbg from cat walk. Set pkr with center of element at 2864.37 m and end of tbg at 2876,76 m. Pkr landed with 10 000 lbs compression. P/test annulus to 2000 psi and hold 10 mins. M/up 2 7/8" EUE landing jnt to top drive and apply 1900 psi to tbg to counter balance differential pressure at on / off connector. Disconnect from on/off connector and space up hanger to rig floor. Displace annulus mud with 3% KCL brine direct circulated at 2 1/2 BPM / 2700 psi ICP. Engage on/off connector and land tbg hanger. P/ test tbg. to 3000psi for 15 min. Secure with tie down screws. Install BPV and n/dn BOP stack. N/up W-G 5K well head, cw/ needle v/v's and p gauges. Remove BPV, install TWCV. P/test seal pocket & X-mas tree to 5000 psi for 10 min. Remove TWCV valve & install BPV.(pressure tests witnessed by Brian Marriott, Beach DRR & Scott Healey, Beach Engineer) "RIG HANDED BACK TO DRILLING"

Rig released 14th October, 2006 @ 15:00 hours.

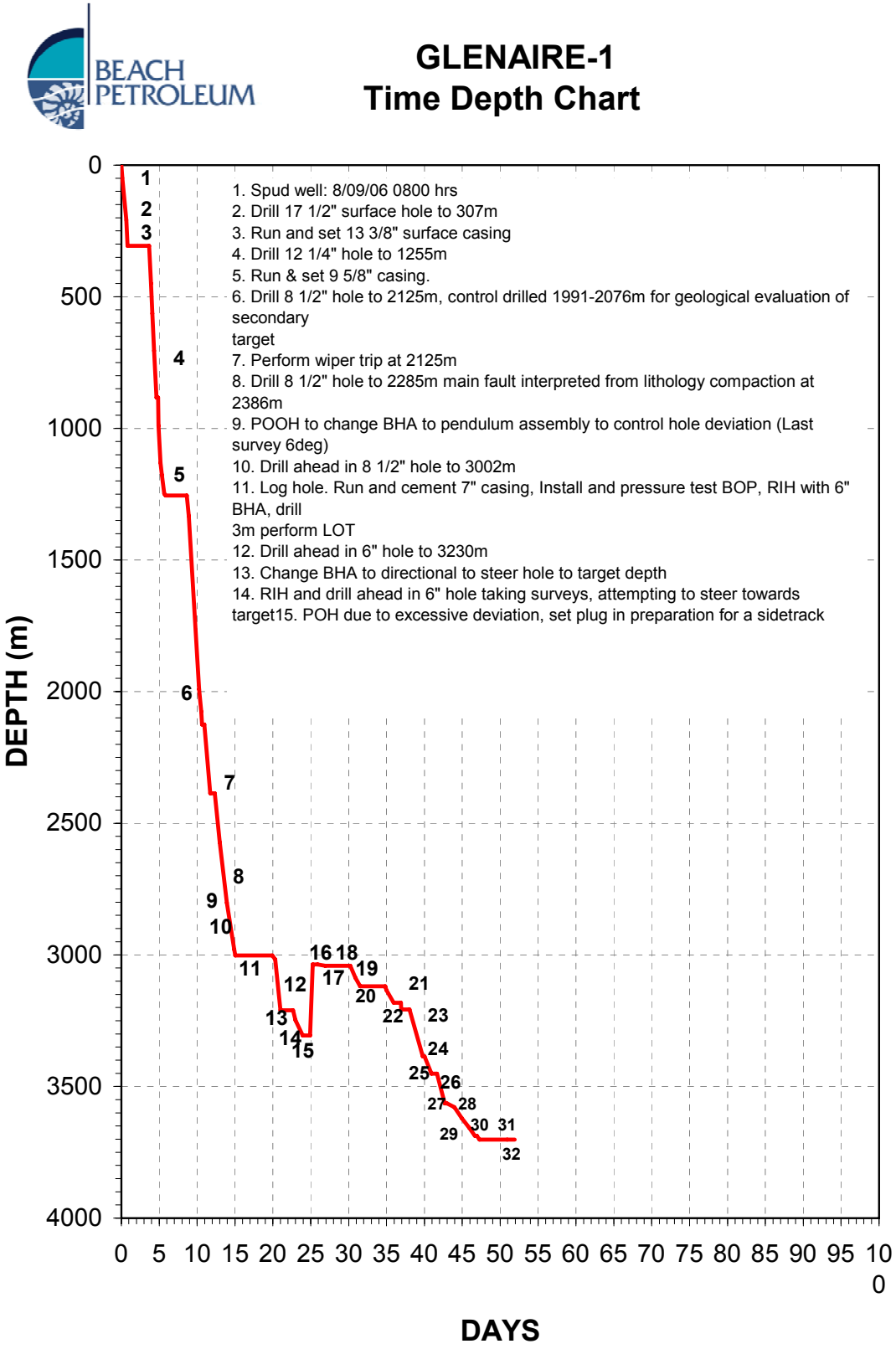


Figure 3: Drilling Time/Depth Curve Glenaire 1

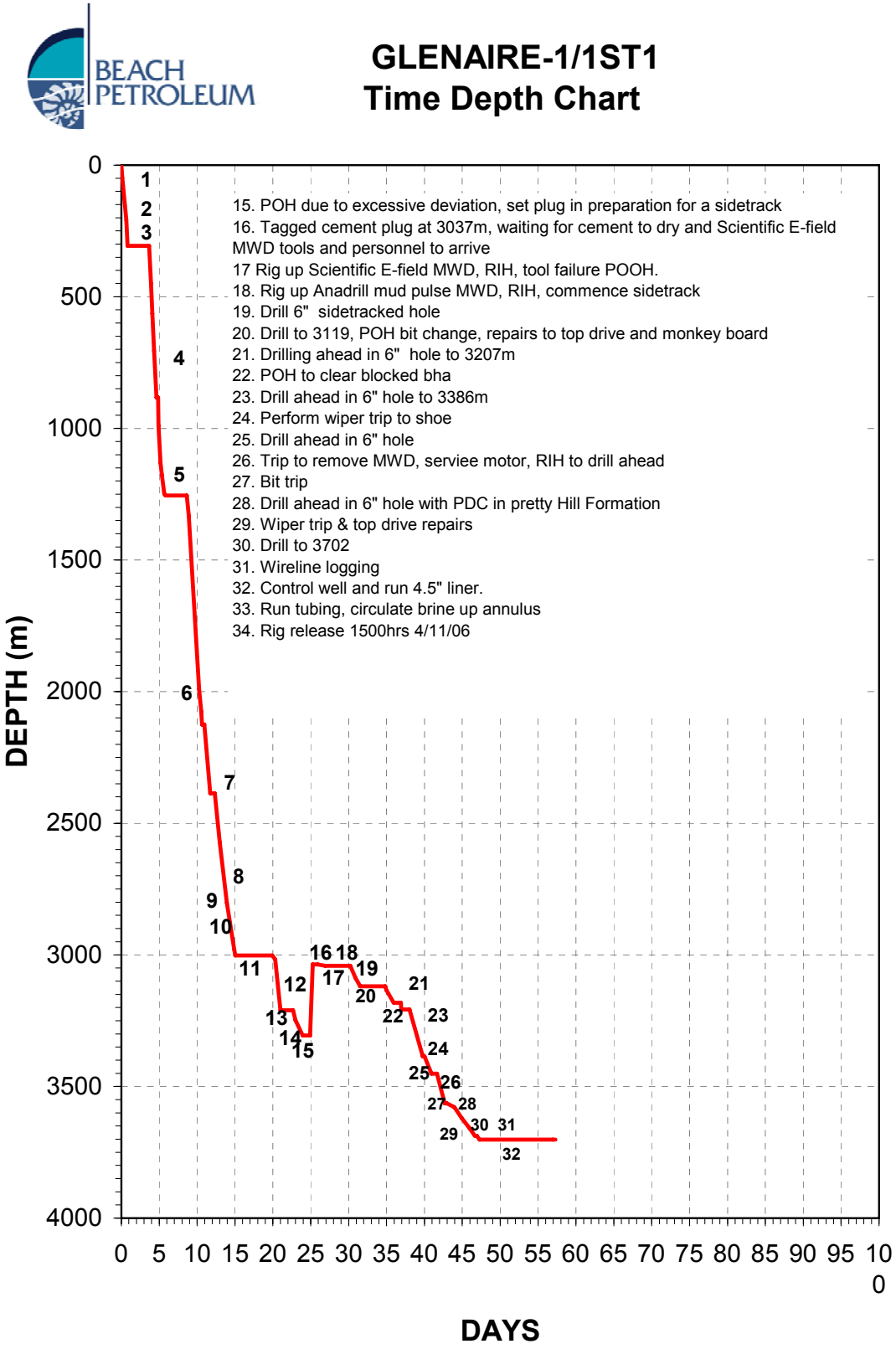


Figure 4: Drilling Time/Depth Curve Glenaire 1/ST1

2.3.2 Hole Sizes and Depths

17.5” / 445mm	to	307.0m	
12.25”/311mm	to	1255.0m	
8.5” / 216mm	to	3002.0m	
6” / 152 mm	to	3701.0m	(Total Depth – Drillers)

2.3.3 Casing and Cementing

Casing and cementing reports are available in Appendix 5.

2.3.4 Deviation Surveys (Magnetic Single Shot and MWD)

Glenaire-1 was planned as a vertical well. Due to hole deviation in excess of 20deg reached at 3294m, it was decided to sidetrack the hole back to vertical. Figures 5 & 6 show the well path in both plan and side views.

A final report by Schlumberger is available in Appendix 6

Glenaire-1

Depth (m)	Inclination (deg)	Depth (m)	Inclination (deg)	Depth (m)	Inclination (deg)
48m	0.5°	2893m	4.75°	3194m	9.25°
131m	1°	2989m	6.25°	3198m	9.75°
259m	1°	2997m	7°	3236m	11.75°
2633m	6.5°	2987m	5.75°	3256m	14.5°
2719m	6.25°	3020m	6.75°	3276m	18.5°
2806m	5.25°	3108m	8.5°	3294m	20.5°

Glenaire-1 /ST1

Depth (m)	Inclination (deg)	Depth (m)	Inclination (deg)	Depth (m)	Inclination (deg)
3120m	2.04°	3282m	2.6°	3398m	3.21°
3148m	2.72°	3292m	1.86°	3407m	2.92°
3148m	2.72°	3311m	2.89°	3427m	2.99°
3234m	1.0°	3349m	1.86°	3464m	1.56°
3234m	0.69°	3370m	3.0°	3491m	1.37°
3249m	0.92°	3370m	3.0°	3398m	3.21°
3263m	1.48°	3378m	2.48°	3407m	2.92°

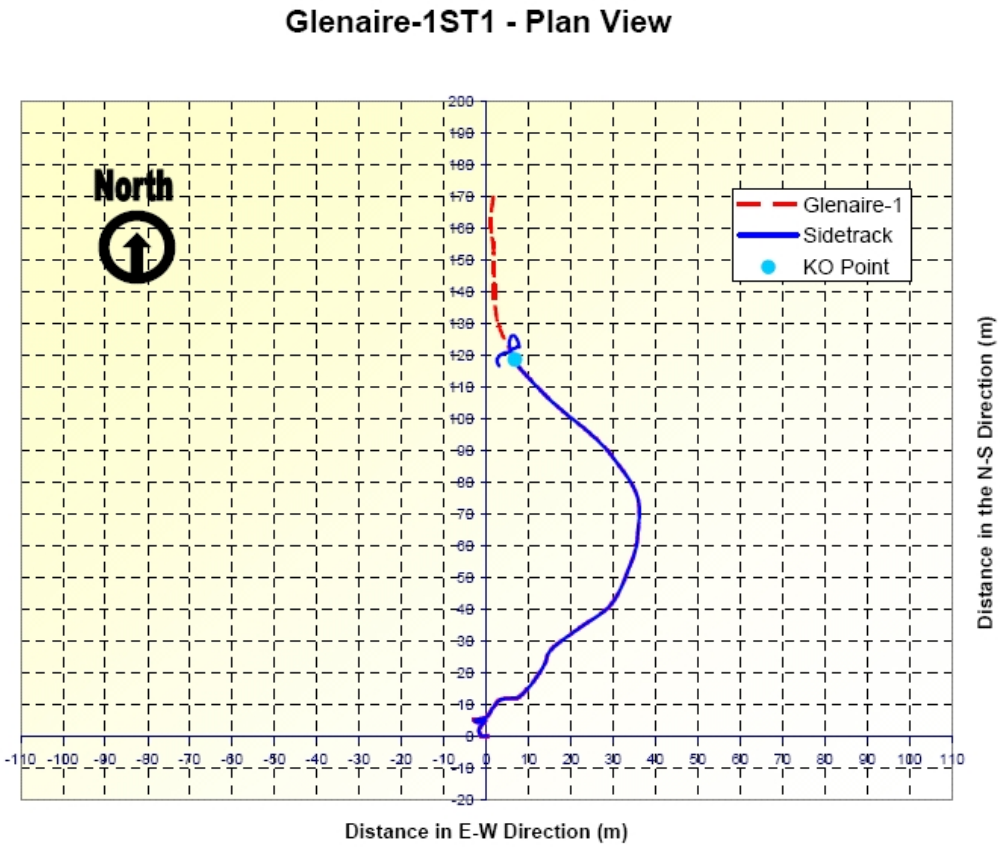


Figure 5: Well-bore path for both Glenaire-1 and Glenaire 1/ST1 in plan view

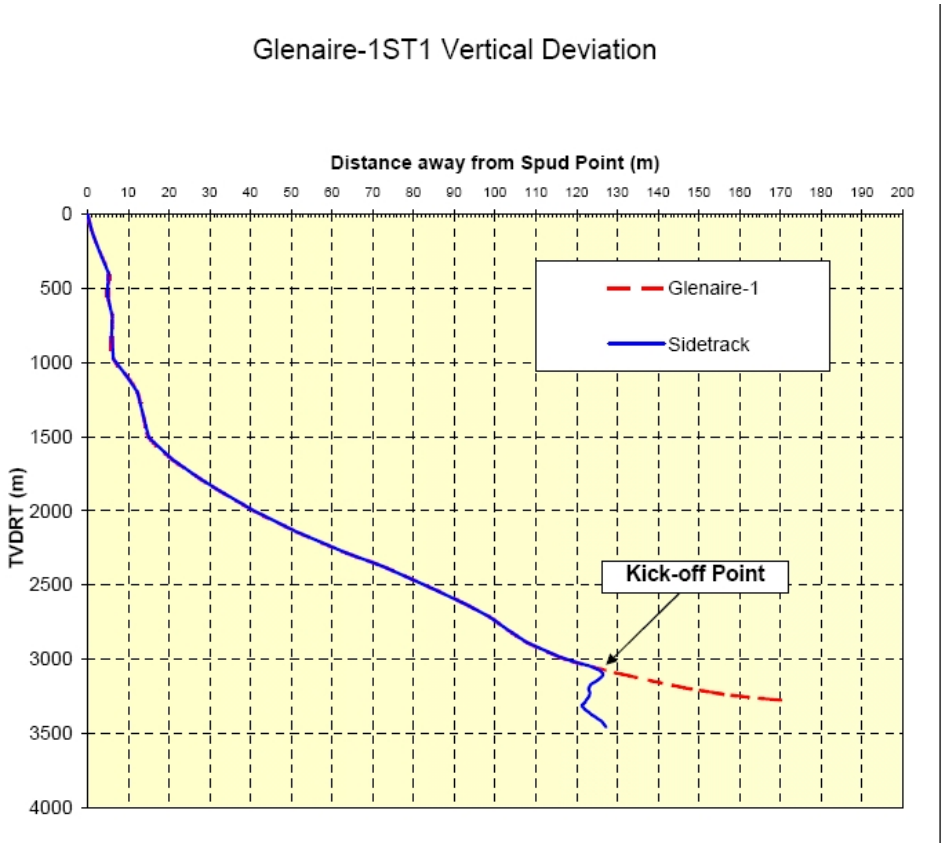


Figure 6: Well-bore path for both Glenaire-1 and Glenaire 1/ST1 in vertical view

2.3.5 Drilling Fluid, Physical Mud Properties, Chemicals Used

RMN Drilling Fluids provided the drilling mud for Glenaire-1/ST1 and a full report is provided in Appendix 4.

2.3.6 Bit Record

The bit record for Glenaire-1/ST1 is included in Appendix 3.

2.3.7 Water Supply

Drilling water for the well was supplied from local water bore.

2.4 Logging and Testing

2.4.1 Well-site Geologist

Dave Horner provided the onsite geological supervision for Beach Petroleum Ltd. Daily geological reports are contained in Appendix-2.

2.4.2 Mud-logging

Geoservices Overseas S.A provided Mud-logging services. Cuttings gas was monitored from surface conductor shoe to total depth using a GeoFast FIF (GFF) FID gas detector and chromatograph. CO2 concentrations were continuously monitored.
A mudlog recording lithology, penetration rate, mud gas and other data was prepared and is an enclosure (2) to this report. Overpressure was also monitored from surface – 3621m. The pressure reports can be found in Appendix 7.

2.4.3 Ditch Cutting Samples

Cuttings were collected and described from spud to TD. The sampling intervals were 10m from spud to 1800m, and 3m from 1800m to 3701m TD. The cuttings samples and sets were:

Sample Type	No.Sets
Washed & Dried	2
Samplex Trays	1

The cuttings descriptions are provided in Appendix 10.

2.4.4 Coring

None taken.

2.4.5 Sidewall Cores

None taken

2.4.6 Testing

None performed

2.4.7 Wireline Logs

Two suites of wire-line logs were acquired by Schlumberger:

Glenaire-1			
Suite	Run No.	Type Log	Interval
1	1	PEX-BHC-HALS-GR (Res-Sonic-GR only) (GR to surface)	3702.0 – 2996.0m

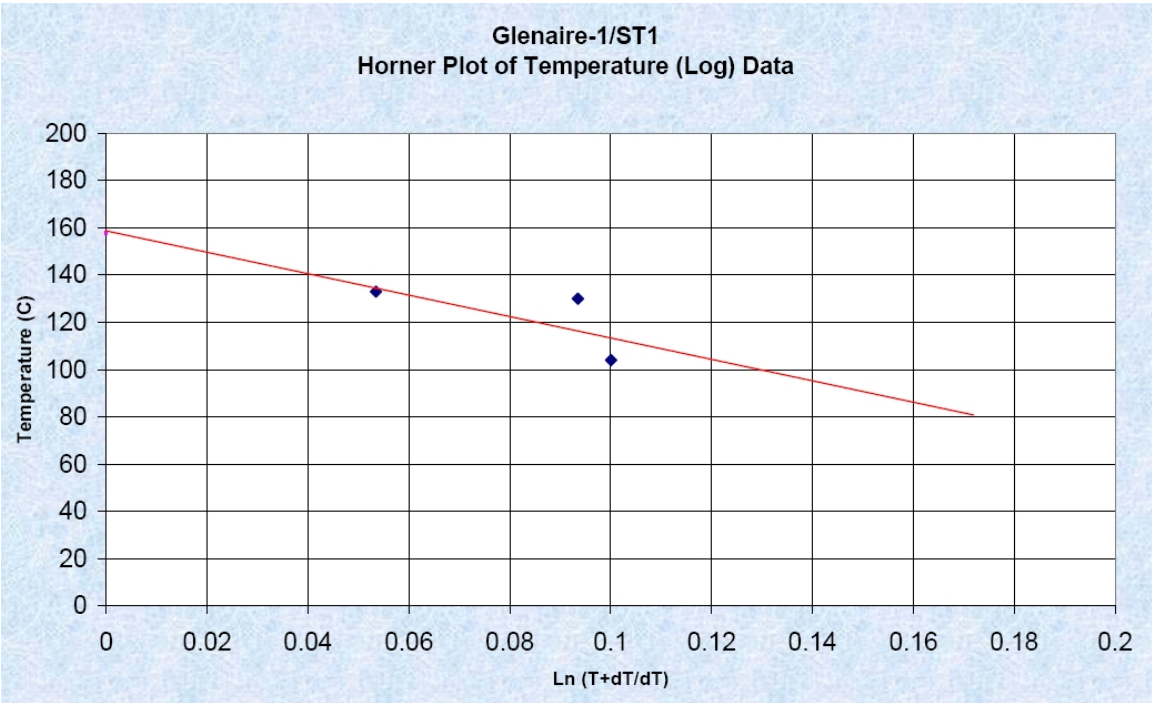
Glenaire-1 /ST1			
Suite	Run No.	Type Log	Interval
1	1	FMS-GR	3702.0 – 2996.0m
1	2	DLT-BHC-PEX-GR	3702.5 – 2997.0m

2.4.8 Temperature Surveys

The following maximum temperatures were recorded from wireline logs:

PEX-BHC-HALS-GR	104.0°C @ 3002.0m	7.5 hrs after circulation.
FMS-GR	130.0 °C @ 3702.5m	10.2 hrs after circulation
DLT-BHC-PEX-GR	133.0 °C @ 3702.5m	18.2 hrs after circulation
Extrapolated BHT	157.8 °C @ 3702.5m	Horner Plot (Figure 7)

Using data from wireline logging runs and assuming a surface temperature of 15°C the resulting geothermal gradient is calculated to be 38.6°C / kilometre at Glenaire-1/ST1.



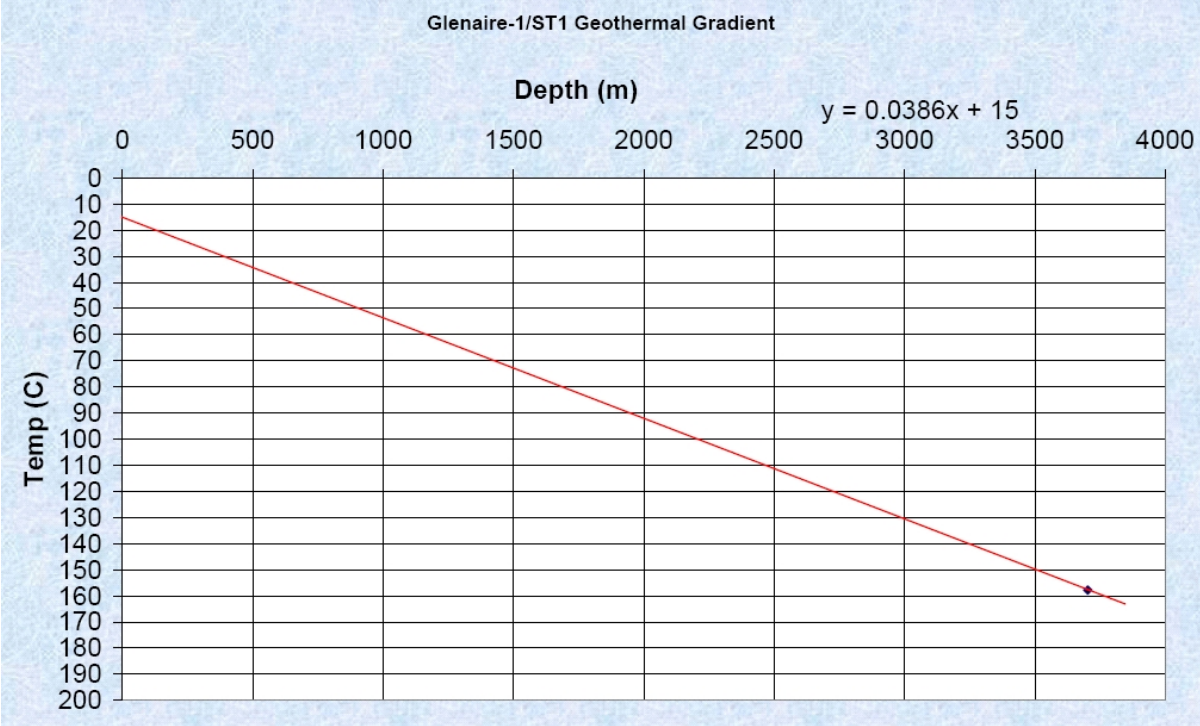
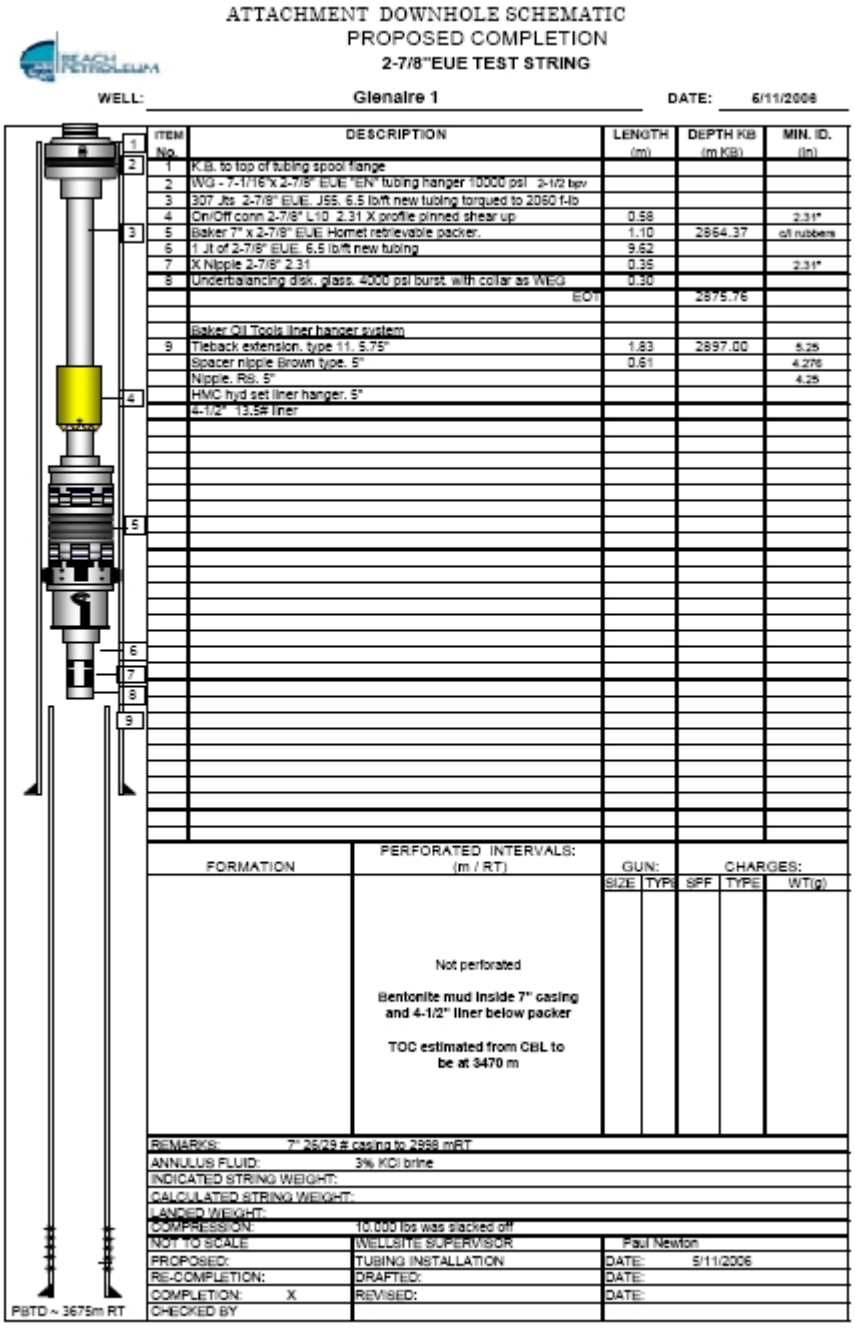


Figure 7: Temperature Plots for Glenaire-1/ST1

2.4.9 Velocity Survey

Not conducted.



ATTACHMENT DOWNHOLE SCHEMATIC
PROPOSED COMPLETION
2-7/8"EUE TEST STRING

WELL: Glenaire 1 DATE: 6/11/2006

ITEM No.	DESCRIPTION	LENGTH (m)	DEPTH KB (m KB)	MIN. ID. (in)
1	K.B. to top of tubing spool flange			
2	WG - 7-1/16"x 2-7/8" EUE "EN" tubing hanger 10000 psi 2-1/2 bpv			
3	307 Jts 2-7/8" EUE, J55, 6.5 lb/ft new tubing torqued to 2060 f-lb			
4	On/Off conn 2-7/8" L10 2.31 X profile pinned shear up	0.58		2.31"
5	Baker 7" x 2-7/8" EUE Hornet retrievable packer.	1.10	2864.37	o/l rubbers
6	1 Jt of 2-7/8" EUE, 6.5 lb/ft new tubing	9.62		
7	X Nipple 2-7/8" 2.31	0.35		2.31"
8	Underbalancing disk, glass, 4000 psi burst, with collar as WEG	0.30		
	EOT		2875.76	
	Baker Oil Tools liner hanger system			
9	Tieback extension, type 11, 5.75"	1.83	2897.00	5.25
	Spacer nipple Brown type, 5"	0.61		4.276
	Nipple, Rs, 5"			4.25
	HMC hyd set liner hanger, 5"			
	4-1/2" 13.5# liner			

FORMATION	PERFORATED INTERVALS: (m / RT)	GUN: SIZE	GUN: TYPE	CHARGES: SPF	CHARGES: TYPE	CHARGES: WT(g)
	Not perforated Bentonite mud inside 7" casing and 4-1/2" liner below packer TOC estimated from CBL to be at 3470 m					

REMARKS:	7" 26/29 # casing to 2998 mRT		
ANNULUS FLUID:	3% KCl brine		
INDICATED STRING WEIGHT:			
CALCULATED STRING WEIGHT:			
LANDED WEIGHT:			
COMPRESSION:	10,000 lbs was slacked off		
NOT TO SCALE	WELLSITE SUPERVISOR	Paul Newton	
PROPOSED:	TUBING INSTALLATION	DATE:	5/11/2006
RE-COMPLETION:	DRAFTED:	DATE:	
COMPLETION: X	REVISED:	DATE:	
CHECKED BY			

PBTD ~ 3675m RT

Figure 8: Down-hole Diagram for Glenaire-1

3 GEOLOGY

3.1 Reasons for Drilling

Glenaire-1/ST1 was a wildcat well designed to test a fault dependant 3-way dip structure in the onshore Otway Basin, within the eastern Penola Trough in Victoria, about 33 km north east of Mount Gambier (Figure 1) and approximately 24 km southeast of the Katnook Gas Field.

The Glenaire structure was interpreted to be primarily prospective for gas in the sands of the Early Cretaceous Pretty Hill Formation, with secondary potential within the Barremian Katnook / Windermere Sandstone. These reservoirs are proven productive in the South Australia portion of the basin, with the Katnook Graben hosting five gas fields (Katnook, Redman, Ladbroke Grove, Haselgrove and Haselgrove South) with recoverable reserves of approximately 100 bcf.

Glenaire is located in a similar structural and geological setting to the S.A. gas fields. The early rift sediments of the Casterton Formation and shales in the basal Pretty Hill Formation were expected to be the source of hydrocarbons. These units are interpreted from modelling to be the source of the hydrocarbons in the Katnook Graben gas fields.

3.2 Stratigraphic Prognosis

The stratigraphic prognosis for Glenaire-1 was made utilising the results of surrounding wells and interpretation and seismic data. The well penetrated a stratigraphic section comprising approximately 491 metres of Tertiary Heytesbury and Wangarrip Group sediments, 108m of condensed Sherbrook Group sediments, 3184m of Otway Group sediments and terminating in Early Cretaceous Pretty Hill Formation. The Windermere/Katnook Sandstone, prognosed as a secondary target, is interpreted to not be present at Glenaire-1.

AGE	FORMATION	Depth (mRT)	DEPTH (mTVDRT)	DEPTH (mTVDSS)	Thick (mTVT)
Tertiary - Recent	Gambier Limestone	6.2	6.0	71.2	21.0
Eocene	Dilwyn Formation	27.2	27.2	50.2	274.6
Eocene-Palaeocene	Pember Formation	301.9	301.8	-224.4	85.1
Palaeocene	Pebble Point Formation	387.0	386.9	-309.5	103.7
L. Cretaceous	Sherbrook Group (Undiff.)	490.7	490.6	-413.2	107.8
L.- E. Cretaceous	Eumeralla Formation	598.4	598.4	-521.0	1377.7
E. Cretaceous	Laira Formation	1976.8	1976.1	-1898.7	1531.3
E. Cretaceous	Pretty Hill Formation	3513.0	3507.4	-3430.0	187.0+
	TD	3706.7	3694.4	-3617.0	

Table 1: Glenaire-1/ST1 Stratigraphy

3.3 Stratigraphy

The stratigraphic section encountered in Glenaire-1/ST1 is summarised below and tops are tabulated in Table 1. The detailed lithological description of the section encountered is presented in Appendix 2 (Daily Geological Reports) and Appendix 10 (Cuttings descriptions). For reference, a generalised Onshore Otway Basin stratigraphic column is provided as Figure 9.

**All depths reported in this well completion report are measured depth relative to the rotary table (MDRT) unless otherwise stated

GAMBIER LIMESTONE

6.0 – 26.8 m Thickness : 21.2 m

Not described – descriptions from mid Pember Formation down.

DILWYN FORMATION

26.8 – 301.9 m Thickness : 274.6 m

Not described – descriptions from mid Pember Formation down.

PEMBER FORMATION

301.9 – 386.9 m Thickness : 85.1 m

Not described from 301.9 to 307.0m.

Interbedded SANDSTONE and minor SILTSTONE from 307.0 to 320.0m

SANDSTONE, (80%) off white to light grey, silty to very coarse, dominantly very fine, subangular to rounded, very poorly sorted, very weak silica cement, abundant white argillaceous and silt matrix – matrix supported, friable, poor visual porosity.

SILTSTONE, (20%) off white, very argillaceous, trace micromica, soft, non fissile.

SILTY CLAYSTONE from 320.0 to 386.9m, dark brown, common to abundant dispersed very fine to very coarse quartz sand grains often with brown staining, moderately carbonaceous, trace pyrite, rare glauconite, trace fossil fragments, soft, non fissile.

PEBBLE POINT FORMATION

386.9 – 490.7 m Thickness : 103.7 m

SANDSTONE, light brown, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, weak silica cement, common dark brown argillaceous matrix, opaque to milky quartz grains often with brown staining, trace pyrite, unconsolidated to friable, good inferred porosity, no oil fluorescence.

SHERBROOK FORMATION

490.7 – 598.4 m Thickness : 107.8 m

Interbedded SANDSTONE and minor SILTSTONE

SANDSTONE, (95%) light brown, very fine to occasionally pebble, dominantly coarse to very coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace pyrite, friable, very good inferred porosity, no oil fluorescence.

SILTSTONE, (5%) medium brown, very argillaceous, trace very fine off white altered feldspar grains, trace medium brown cryptocrystalline dolomite, trace black carbonaceous flecks, trace pyrite, trace micromica, soft, very dispersive, non fissile.

EUMERALLA FORMATION

598.4 – 1976.8 m Thickness : 1377.7 m

SILTY CLAYSTONE and minor SANDSTONE from 698.4 to 700.0m.

SILTY CLAYSTONE, (95%) light to medium green grey to light to medium brown grey to medium brown, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile.

SANDSTONE, (5%) light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, weak silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, friable, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 700.0 to 970m.

SANDSTONE, (10%) light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, very weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, trace brown mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE, (90%) light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile.

SILTY CLAYSTONE and minor SANDSTONE from 970 to 1330m.

SILTY CLAYSTONE, (90%) light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, trace micromica, common pyrite, soft, non fissile.

SANDSTONE, (10%) light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains,

trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 1330 to 1540m.

SILTY CLAYSTONE, (70%) off white to light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile.

SANDSTONE, (30%) off white to light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 1540.0 to 1680m.

SILTY CLAYSTONE, (80%) light to medium green grey to light to medium brown, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile.

SANDSTONE, (20%) off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. Vein quartz is present in sample around 1546m.

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 1680.0 to 1778.0m.

SILTY CLAYSTONE, (80%) light to medium green grey to light to medium brown, trace to common very fine altered feldspar grains, trace to rarely common black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, soft to firm, non fissile.

SANDSTONE, (20%) off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace to rarely common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.

COAL: (trace) (detrital) black, earthy to subvitreous luster, platy fracture, very argillaceous in part, moderately hard, brittle.

FLUORESCENCE: The coal has no fluorescence but gives a very dull yellow crush cut.

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 1778.0 to 1945.3m.

SILTY CLAYSTONE, (80%) off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, trace micromica, rare pyrite, firm, subfissile.

SANDSTONE, (20%) off white to light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.

COAL, (trace) black to very dark brown grey, earthy to subvitreous, blocky to platy to subconchoidal fracture, very argillaceous in part, hard, brittle.

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 1945.3 to 1976.8m.

SILTY CLAYSTONE, off white to medium grey to medium brown grey to medium green grey, often common to abundant very fine altered feldspar grains, common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, trace to common micromica, rare pyrite, firm, subfissile.

SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.

COAL, as above.

FLUORESCENCE, no fluorescence but gives a weak dull yellow crush cut.

LAIRA FORMATION

1976.8 – 3513.0 m Thickness : 1531.3 m

SILTY CLAYSTONE and minor SANDSTONE from 1976.8.0 to 2055.0m.

SILTY CLAYSTONE, (80%) off white to medium grey to medium brown to medium green grey, often common to abundant very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, common micromica, firm, subfissile.

SANDSTONE, (20%) off white to light green grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica cement, weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2055.0 to 2154.0m.

SILTY CLAYSTONE, (95%) medium to dark brown grey to medium grey to medium green grey, gradually becomes more brownish with depth, trace very fine altered feldspar grains in part, moderately carbonaceous in part, trace black carbonaceous flecks and fine detritus, common micromica, moderately hard, subfissile.

SANDSTONE, (5%) off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2154.0 to 2327.0m.

SILTY CLAYSTONE, (90%) light to medium grey to medium brown grey to medium green grey, trace to common very fine altered feldspar grains in part, trace black carbonaceous flecks and fine detritus, trace crystalline calcite veining in part, trace to common micromica, moderately hard, subfissile.

SANDSTONE, (10%) off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2327.0 to 2386.0m.

SILTY CLAYSTONE, (95%) medium grey to medium brown grey to medium green grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.

SANDSTONE, (5%) off white to light brown grey, silty to very fine, occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2386.0.0 to 2541.0m.

SILTY CLAYSTONE, (80%) light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace to rarely abundant black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.

SANDSTONE, (20%) off white to light brown grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence

SILTY CLAYSTONE and minor SANDSTONE from 2541.0 to 2766.0m.

SILTY CLAYSTONE, (90%) light to medium grey to medium brown grey, dark brown and very carbonaceous in part, common very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.
SANDSTONE, (10%) off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2766.0 to 2907.0m.
SILTY CLAYSTONE, (80%) light to medium dark grey to medium brown grey, often abundant very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.
SANDSTONE, (20%) off white to light grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2907.0 to 2976.0m.
SILTY CLAYSTONE, (70%) light to dominantly medium dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.
SANDSTONE, (30%) off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 2976.0 to 3002.0m.
SILTY CLAYSTONE, (100%) light to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.
SANDSTONE, (Trace) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 3002.0 to 3108.0m.

SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, grey black and very carbonaceous in part, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile.

SANDSTONE, (10%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 3108.0 to 3162.0m.

SILTY CLAYSTONE, (70%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, slightly calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace vein calcite at 3129m, common micromica, hard, subfissile.

SANDSTONE, (30%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and very strong calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

COAL, (trace) black, subvitreous to vitreous, subconchoidal fracture, hard, brittle.

SILTY CLAYSTONE and minor SANDSTONE from 3162.0 to 3246.0m.

SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile.

SANDSTONE, (10%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE and trace CARBONACEOUS CLAYSTONE from 3246.0 to 3306.0m.

SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile, with from 3293m common calcite and occasional quartz lined fractures.

SANDSTONE, (10%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no

oil fluorescence, with from 3293m common calcite and occasional quartz lined fractures.

CARBONACEOUS CLAYSTONE, (trace) grey black, earthy texture, blocky to platy fracture, trace micromica, moderately hard.

(Note: Plugged Back to 3041m For Sidetrack Hole).

GLENAIRE-1 /ST1 DESCRIPTIONS

SILTY CLAYSTONE and minor SANDSTONE from 3063.0 to 3119.0m.

SILTY CLAYSTONE, (80%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile.

SANDSTONE, (20%) off white to light brown, silty to occasionally fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence

SILTY CLAYSTONE and minor SANDSTONE and trace COALfrom 3119.0 to 3182.0m.

SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, rarely very carbonaceous, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, trace calcite lined fractures in part, hard, subfissile.

SANDSTONE, (10%) off white to light brown, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, trace calcite lined fractures in part, hard, no visual porosity, no oil fluorescence.

COAL, (trace) black, subvitreous to vitreous, subconchoidal fracture, hard, brittle.

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 3182.0 to 3207m.

SILTY CLAYSTONE, (80%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, very carbonaceous in part, common micromica, hard, subfissile.

SANDSTONE, (20%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular/contused fracture, hard, brittle.

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 3207.0 to 3386.0m.

SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, trace calcite lined fractures in part, common micromica, hard, subfissile.

SANDSTONE, (10%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

COAL, (trace) black to very dark grey, very argillaceous – grades to carbonaceous claystone, earthy lustre, irregular to blocky fracture, hard

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 3386.0 to 3440.0m.

SILTY CLAYSTONE, (85%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, hard, subfissile.

SANDSTONE, (15%) off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, rare fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.

COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle.

SANDSTONE and minor SILTY CLAYSTONE from 3440.0 to 3450.0m.

SILTY CLAYSTONE, (20%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, abundant calcite lined fractures, common micromica, hard, subfissile.

SANDSTONE, (80%) off white, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, abundant calcite lined fractures, very hard, no visible intergranular porosity, no intergranular oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE and trace COAL from 3450.0 to 3513.0m

SILTY CLAYSTONE, (90%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile.

SANDSTONE, (10%) off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.

COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle.

PRETTY HILL FORMATION

3513.0– 3701.0m Thickness: 188+ m

SANDSTONE from 3513.0 to 3532.0m off white, very fine to fine at top becoming very fine to occasionally very coarse at base, dominantly fine at top becoming dominantly medium to coarse at base, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, nil to poor visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 3532.0 to 3550.0m.

SILTY CLAYSTONE, (80%) medium to dark grey to medium brown, common very fine altered feldspar grains in part, slightly carbonaceous, trace fine black carbonaceous flecks and detritus in part, common micromica, hard, subfissile.

SANDSTONE, (20%) off white, very fine to very coarse, dominantly fine, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.

Interbedded SILTY CLAYSTONE and SANDSTONE from 3550.0 to 3576.0.

SILTY CLAYSTONE, (50%) medium to dark grey to rarely medium brown grey,, moderately carbonaceous, trace fine black carbonaceous flecks and detritus, common micromica, hard, subfissile.

SANDSTONE, (50%) off white, very fine to medium, dominantly fine, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, trace to common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 3576.0 to 3593.0m.

SILTY CLAYSTONE, (90%) medium grey to black, medium brown grey in part, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard to very hard, subfissile.

SANDSTONE, (10%) off white, very fine to medium, dominantly fine, angular to subrounded, poorly sorted, strong silica and moderate calcareous cements, common

white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.

KAOLINITIC SANDSTONE from 3593.0 to 3603.0m off white, moderately calcareous, abundant very fine to fine quartz sand grains dispersed through a white kaolin clay matrix, common black coaly laminates – sand percentage and grain size increases with depth, trace grey banded cryptocrystalline chert in part – possible fracture infill?, moderately hard, very poor intergranular porosity - grades with depth to:

SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, common to abundant white argillaceous matrix, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, trace grey banded cryptocrystalline chert – possible fracture infill?, very hard, no visual porosity.

SILTY CLAYSTONE and minor SANDSTONE from 3603.0 to 3654.0m.

SILTY CLAYSTONE, (70%) medium grey to black to medium brown, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile.

SANDSTONE, (30%) off white, very fine to fine, dominantly very fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, no visual porosity.

Interbedded SILTY CLAYSTONE and SANDSTONE from 3654.0 to 3671.0m.

SILTY CLAYSTONE, (50%) medium grey to black to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and coaly detritus, trace to common micromica, hard, subfissile.

SANDSTONE, (50%) off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, trace to abundant grey banded cryptocrystalline chert, hard, no visual porosity, no oil fluorescence.

KAOLINITIC SANDSTONE from 3671.0 to 3674.0m off white, very fine to occasionally fine, angular to subrounded, moderately sorted, moderate silica and weak calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace black coaly detritus, trace grey banded cryptocrystalline chert, moderately hard, no visual porosity.

SANDSTONE and minor SILTY CLAYSTONE from 3674.0 to 3687.0m

SILTY CLAYSTONE, (20%) medium grey to black to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and coaly detritus, trace to common micromica, hard, subfissile.

SANDSTONE, (80%) off white, very fine to medium, dominantly fine – becoming coarser with depth, angular to subrounded, moderately sorted, strong to very strong

silica and moderate calcareous cements, common to abundant white argillaceous matrix –matrix decreases with depth, quartzose, common to abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, nil to very poor visual porosity, no oil fluorescence.

SILTY CLAYSTONE and minor SANDSTONE from 3687.0 to 3701.0m.

SILTY CLAYSTONE, (70%) medium grey to black to medium brown, moderately to very carbonaceous, trace black carbonaceous flecks and coaly detritus, trace very fine altered feldspar where brown, trace to common micromica, hard, subfissile.

SANDSTONE, (30%) off white, very fine to medium, dominantly medium, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.

TOTAL DEPTH	Driller: 3701.0 mRT
	Logger: 3702.5 mRT

3.4 Hydrocarbon Shows

Total gas was recorded and analysed from surface to T.D. All ditch cuttings were checked for hydrocarbon fluorescence. Descriptions of hydrocarbon shows observed in drill cuttings are detailed below.

Eumeralla Formation

1670.0 - 1680.0m	Coal has no fluorescence but gives a weak dull yellow crush cut.
1720.0 - 1730.0m	Coal has no fluorescence but gives a weak dull yellow crush cut.
1815.0 - 1827.0m	Coal has no fluorescence but gives a weak dull yellow crush cut.
1842.0 - 1845.0m	Coal has no fluorescence but gives a weak dull yellow crush cut.
1875.0 - 1884.0m	Coal has no fluorescence but gives a weak dull yellow crush cut.
1908.0 – 19410m	Coal has no fluorescence but gives a weak dull yellow crush cut.

Laira Formation

3255.0 – 3258.0m	Carbonaceous claystone has no fluorescence but gives a very weak dull yellow crush cut.
3234.0 – 3237.0m	Coal has no fluorescence but gives a weak pale yellow crush cut.
3258.0 – 3261.0m	Coal has no fluorescence but gives a weak pale yellow crush cut.
3218.0 – 3221m	Coal has no fluorescence but gives a weak pale yellow crush cut.
3399.0 – 3408.0m	Coal has no fluorescence but gives a weak pale yellow crush cut.

3438.0 – 3447.0m	Fracture infill material in sandstone has dull yellow mineral fluorescence and trace dull to moderately bright very pale yellow white oil fluorescence giving a weak dull milky white crush cut fluorescence.
3462.0 – 3468.0m	Coal has no fluorescence but gives a weak pale yellow crush cut.
3591.0 – 3603.0m	Kaolinitic sandstone has 5% very dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut.
3690.0 – 3696.0	Carbonaceous material in siltstone has no fluorescence but gives a very dull yellow crush cut.

Recordings of gas shows above background readings observed from the well are described below.

Glenaire-1

Depth (m)	Total Gas (Units/BG)	C1 (%)	C2 (%)	C3 (%)	C4 (%)	C5 (%)
1540.0 – 1680.0	254/90	95	3	1	Tr	Tr
1680.0 – 1778.0	432/80	95	3	1	Tr	Tr
1778.0 – 1853.0	705/85	96	3	1	Tr	Tr
1968.0 – 2055.0	1128/85	97	2	1	Tr	Tr
2670.0 – 2766.0	115/40	90	4	3	2	1
2976.0 – 3002.0	215/45	77	8	9	4	2
3162.0 – 3230.0	2766/300	77	8	8	5	2
3230.0 – 3246.0	462/95	79	8	7	4	2
3246.0 – 3304.0	4337/70	60	8	13	12	7
Glenaire-1/St1						
3119.0 – 3126.0	881/50	80	9	8	2	1
3126.0 – 3182.0	2538/150	77	9	8	4	2
3182.0 – 3207.0	4560/300	61	12	13	9	5
3207.0 – 3279.0	4436/350	60	12	15	9	4
3279.0 – 3386.0	4578/155	59	11	14	11	5
3386.0 – 2440.0	4473	59	11	14	11	5
3440.0 – 3450.0	1647/210	86	7	3	2	2
3450.0 – 3507.0	1647/210	89	6	3	1	1
3508.0 – 3532.0	2332/300	93	3	2	1	1
3674.0 – 3687.0	190/45	95	3	1	Tr	Tr
3687.0 – 3700.0	125/35	88	7	5	3	2

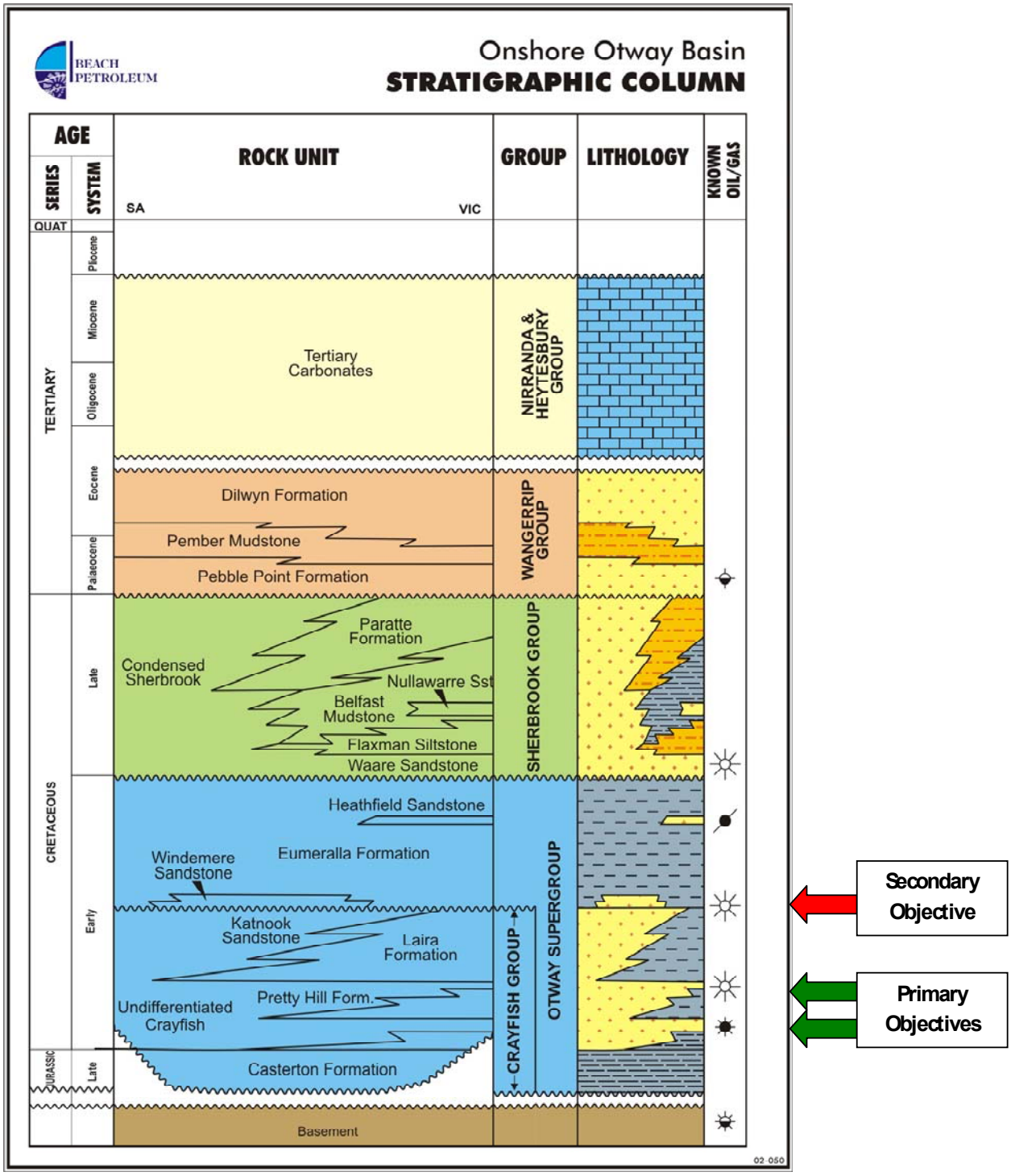


Figure 9: Generalised Onshore Otway Basin Stratigraphic Column

4 CONCLUSIONS

Glenaire-1 /ST1 was a successful test of the oil and gas potential of the Katnook/Windermere, Laira and Pretty Hill Formations in the Glenaire structure.

The well intersected the expected stratigraphic section with the exception the Katnook and Windermere Sandstones are absent. This well intersected the thickest section of Laira Formation to date.

Numerous gas shows were noted in the Laira Formation and Pretty Hill Formation. Coals within the Eumeralla and Laira Formations showed no direct oil fluorescence but exhibited dull to pale crush cut fluorescence. Fracture infill material of sandstones with the Laira Formation from 3438.0 to 3447.0m had dull, yellow mineral fluorescence and trace dull to moderately bright very pale yellow white oil fluorescence giving a weak dull milky white crush cut fluorescence. A kaolinitic sandstone from 3591.0 to 3603.0m within the Pretty Hill Formation had 50% dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut. Very high gas readings were recorded from fracture zones within the Laira Formation and from sands within the Pretty Hill Formation. Traces of oil were observed at the shakers during drilling from a fracture zone at 3192m within the Laira Formation.

No drill stem testing was carried out.

Log analysis indicates 4.4 m of net gas pay in the Pretty Hill Formation (3508 – 3705m) using at Rw: 0.38 ohmm @ 25°C or 8.8m of net gas pay using Rw: 0.26 ohmm @ 25°C. Cut-offs used in the analysis were PHIE> 10%; Vcl< 35% and SWT< 60%.

Glenaire-1 /ST1 was cased and completed for further testing and the rig released on 4th November 2006 at 15:00.

DAILY DRILLING REPORT

8/09/2006

REPORT # 01

WELL	**Glenaire 01**	**24:00 DEPTH**	**209m**	**24 HR PROG**	**209m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Dilwyn	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00	Drill to 307m, Wiper trip, lay out 17-1/2" stab		
REMARKS / FORWARD PLAN:	RIH circ. Bottoms up, POOH, run 13-3/8" casing, cement same	**PERSONNEL ON SITE:**	**31**

LAST CASING	20 "	**SET AT**	10.0m	**LOT**		**MAASP**		**BOP TEST**	NIL	**TEST DUE**	

SAFETY	1. Pre-Spud	**WEATHER AM**	overcast
	2.	**PM**	Rain

BIT INFORMATION			
WOB(kLb)	3-10	**JET V(fps)**	210
RPM	120	**H S I**	0.62
BIT NUMBER		**1**	
Size (in)		17.5	
Make		Smith	
Type		XRCPS	
IADC Code		115	
Serial Number		MR9725	
T.F.A.(")		1.117	
Depth In (m)			
Depth Out (m)		IN	
Total Meters		209	
Hours		14	
ROP		14.9	
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		729	
AV - DP (fpm)		63	
AV - DC (fpm)		74	
SPP (psi)		1200	
SPP (calculated)		750	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	128	**RATE**	128
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SURVEYS			
0.5° at 48m			
1° at 131m			
1° at 259m			

BHA # 1	
TOOL	**LENGTH**
17.5 Bit	0.43
Bit sub	0.92
2 x 8" dc's	17.20
17-1/2" stab	1.63
3 x 8" dc's	27.95
X-O	0.65
6" Monal dc	9.33
7 x 6-1/4" dc's	65.23
12 x 4-1/2" HWDP	114.65
BHA LENGTH (m)	237.98
BHA WEIGHT(kLb)	50.9
STRING WT (kLb)	50.7
HOOK LOAD (kLb)	65.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	65.0
DRAG DOWN (kLb)	65.0
TORQUE ON (Amps/Rel.)	2550
TORQUE OFF (Amps/Rel.)	950
BULK PRODUCTS	
FUEL ON SITE	47700 Litres
DAILY USAGE	-47700 Litres
CUM. FUEL USED	-47700 Litres
BARITES ON SITE	#N/A
BARITES USED	#N/A
MUD MIXED	1350 Bbls
MUD LOSSES	621 Bbls

MUD PROPERTIES	
Time	2130
Depth (m)	180
Temp (° C)	24
Mud Type	Gel-Spud
Density (ppg)	8.90
ECD (ppg)	9.07
Viscosity (sec)	75
PV / YP (cp/lb)	13 / 30
Gells (s/m)	26 / 28
API Filt. (cc)	12
Cake (/32")	2
Solids (% Vol)	4
Sand (% Vol)	1.25
MBT	25
pH (strip)	9.5
Chlorides (mg/l)	700
KCL (%)	0
PHPA (ppb)	
ALC - 50 (K)	
Circ. Vol. (Bbl)	729
CHEMICAL USAGE	
Ausben	650
Caustic Soda	6
Kwikseal M	44

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		
Circ & Condition	1.0	1.0
Coring		
D/O Cement		
Drilling	14.0	14.0
FIT / LOT		
Handle BHA		
Repairs		
Rig Service		
Rig up Csg./ Cmt.		
Run Casing		
Safety	1.0	1.0
Slip/Cut Drill Line		
Survey	1.0	1.0
Test BOP		
Tight hole / Fishing		
Tripping		
Wait on Cement		
Wash / Ream		
Well Control		
Well Test		
Wiper Trip		
Wireline		
Other		
TOTALS	17.0	17.0
DAILY MUD COSTS		$10,087.06
CUM. MUD COSTS		**$10,087.06**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
	1:00	Make up #3 stands D.P., rack in Mast
1:00	3:00	Repair broken Geolograph line & re-run same
3:00	3:30	Make up 12-1/4" bit, float sub, to stand D.P.
3:30	5:00	Drill mouse hole, POOH, run mouse hole sock, break off bit & flt. Sub
5:00	7:00	Pick up 17-1/2" bit & BHA, RIH, tag bottom @ 16 metres
7:00	8:00	Pre- Spud check, Hazard Hunt, Sound alarm, Muster Drill, Safety Meeting, Spud Well @ 08:00hrs on 8th Sept.2006
8:00	11:30	Drill 17-1/2" surface hole f/ 16m > 48metres (Dylwyn came in @ 28 met. + -)
11:30	12:00	Circ. & Totco survey @ 47 met., = 1/2 deg
12:00	21:00	Drill f/ 48 met. > 180 met., Sweep LCM pills as required (spot LCM pills on bottom while making connections)
21:00	22:00	Circ. w/ reduced pump while building mud volume
22:00	22:30	Spot LCM pill on bottom, run MSS survey @ 131 met. = 1 deg., N25E, AZI = 32
22:30	0:00	Drill f/ 180met. > 209 met.

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

9/09/2006

REPORT # 02

WELL	**Glenaire 01**	**24:00 DEPTH**	**307m**	**24 HR PROG**	**98m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Dilwyn	**PTD**	3945m	**DAILY COSTS**	$2,099.75

OP's TO 06:00 Drill f/ 209m > 307, wiper trip, circ., POOH, run 13-3/8" csg., circ. & cmt. same, WOC

REMARKS / FORWARD PLAN: Back out Landing jnt., install Braden Hd., rig up BOP, pressure test same & surface equipment

PERSONNEL ON SITE: 31

LAST CASING	13 3/8"	**SET AT**	304.0m	**LOT**		**MAASP**		**BOP TEST**	NIL	**TEST DUE**	

SAFETY 1. Csg. / Cement job
2.

WEATHER AM showers
PM overcast

BIT INFORMATION			
WOB(kLb)	5-10	**JET V(fps)**	210
RPM	120	**H S I**	0.63
BIT NUMBER		**1**	
Size (in)		17.5	
Make		Smith	
Type		XRCPS	
IADC Code		115	
Serial Number		MR9725	
T.F.A.(")		1.117	
Depth In (m)			
Depth Out (m)		307	
Total Meters		307	
Hours		17.5	
ROP		17.5	
Condition Out		1 1 NO A 2 I RR TD	
FLOW DATA			
CIRC. RATE (gpm)		729	
AV - DP (fpm)		63	
AV - DC (fpm)		74	
SPP (psi)		1200	
SPP (calculated)		810	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	128	**RATE**	128
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SURVEYS			

BHA # 1	
TOOL	**LENGTH**
17.5 Bit	0.43
Bit sub	0.92
2 x 8" dc's	17.20
17-1/2" stab	1.63
3 x 8" dc's	27.95
X-O	0.65
6" Monal dc	9.33
7 x 6-1/4" dc's	65.23
12 x 4-1/2" HWDP	114.65
BHA LENGTH (m)	237.98
BHA WEIGHT(kLb)	50.8
STRING WT (kLb)	51.2
HOOK LOAD (kLb)	65.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	65.0
DRAG DOWN (kLb)	65.0
TORQUE ON (Amps/Rel.)	2550
TORQUE OFF (Amps/Rel.)	950
BULK PRODUCTS	
FUEL ON SITE	
DAILY USAGE	
CUM. FUEL USED	47700 Litres
BARITES ON SITE	
BARITES USED	
MUD MIXED	1600 Bbls
MUD LOSSES	1011 Bbls

MUD PROPERTIES	
Time	0815
Depth (m)	307
Temp (° C)	26
Mud Type	Gel-Spud
Density (ppg)	9.00
ECD (ppg)	9.13
Viscosity (sec)	48
PV / YP (cp/lb)	9 / 10
Gells (s/m)	9 / 17
API Filt. (cc)	13.5
Cake (/32")	2
Solids (% Vol)	4.4
Sand (% Vol)	1.75
MBT	20
pH (strip)	9
Chlorides (mg/l)	720
KCL (%)	0
PHPA (ppb)	
ALC - 50 (K)	
Circ. Vol. (Bbl)	589
CHEMICAL USAGE	
Ausben	22
Barite	48
Caustic Soda	1
Kwikseal M	25

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing	1.0	1.0
Circ & Condition	2.0	3.0
Coring		
D/O Cement		
Drilling	3.5	17.5
FIT / LOT		
Handle BHA		
Repairs		
Rig Service		
Rig up Csg./ Cmt.	3.0	3.0
Run Casing	8.5	8.5
Safety		1.0
Slip/Cut Drill Line		
Survey	0.5	1.5
Test BOP		
Tight hole / Fishing		
Tripping	2.0	2.0
Wait on Cement		
Wash / Ream		
Well Control		
Well Test		
Wiper Trip	3.5	3.5
Wireline		
Other		
TOTALS	24.0	41.0
DAILY MUD COSTS		$2,099.75
CUM. MUD COSTS		**$12,186.81**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	3:30	Drill f/ 209 met > 307 met., pump LCM sweeps, excessive sand over shakers & losses
3:30	4:00	Sweep Hi Vis & Circ. Bottoms up x 2, spot 30bbls Hi Vis / LCM on bottom
4:00	4:30	Run MSS survey @ 259 met. = 1 deg., S80W, AZI = 267
4:30	8:00	Wiper trip to bit, hole good, hole took additional 16bbls mud for trip, lay out 17-1/2" stab., RIH, no fill
8:00	8:30	Circ. Bottoms up, shakers clean
8:30	10:30	POOH, lay out bit
10:30	13:00	Clear rig floor, Rig to run 13-3/8" casing
13:00	21:30	Safety Meeting, Run 27 jnt's x 13-3/8" x 54.5lb/ft x K-55 x BTC casing,set shoe @ 304met.(#2 jnt's w/ thread damage, dress same)
21:30	22:30	Circ. bottoms up & shakers clean, hold safety meeting, rig up Hallibuton equip., raise permit, pump 60bbls preflush water ahead
22:30	23:00	Head up Halliburton, load plugs, pump 10bbls water, pressure test lines to 4000psi, ok, release bottom plug, pump 10bbls water
23:00	0:00	Mix & pump 148bbls (388sx) Lead cmt. @ 12.5ppg

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

10/09/2006

REPORT # 03

WELL	**Glenaire 01**	**24:00 DEPTH**	**307m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Dilwyn	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Complete cmt. 13-3/8" csg., WOC, back out landing Jnt., Cmt. Top up, install Braden Head, transfer BOP onto B.H. , nipple up BOP, press. Test same & surface equip.

REMARKS / FORWARD PLAN: Pick up 37 std's D.P. & rack in Mast, make up 12-1/4" BHA, RIH, tag cmt., "Kick Drill", drill cmt, flt, shoe, rat hole & 3met. New hole, circ., F.I.T., drill ahead 12-1/4" hole

PERSONNEL ON SITE: 31

LAST CASING	13 3/8"	**SET AT**	304.0m	**LOT**		**MAASP**		**BOP TEST**	10/09/2006	**TEST DUE**	24/09

SAFETY 1. Safety meeting
2.

WEATHER AM overcast
PM sunny

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	35850 Litres
DAILY USAGE	3050 Litres
CUM. FUEL USED	11850 Litres
BARITES ON SITE	-50 kg
BARITES USED	50 kg
MUD MIXED	2150 Bbls
MUD LOSSES	1445 Bbls

MUD PROPERTIES	
Time	1730
Depth (m)	307
Temp (° C)	20
Mud Type	KCl/PHPA/POL
Density (ppg)	8.70
ECD (ppg)	
Viscosity (sec)	45
PV / YP (cp/lb)	5 / 7
Gells (s/m)	2 / 3
API Filt. (cc)	14.6
Cake (/32")	1
Solids (% Vol)	0.3
Sand (% Vol)	NIL
MBT	1
pH (strip)	10.5
Chlorides (mg/l)	38000
KCL (%)	7.3
PHPA (ppb)	0.59
ALC - 50 (K)	
Circ. Vol. (Bbl)	196
CHEMICAL USAGE	
AMC Pac- LV	8
Biocide G	2
Caustic Soda	3
Defoamer	2
PHPA	5
Xanthan Gum	8
KCL	252

OPERATION	**HRS**	**CUM**
BOP's / Wellhead	9.0	9.0
Cementing	2.0	3.0
Circ & Condition		3.0
Coring		
D/O Cement		
Drilling		17.5
FIT / LOT		
Handle BHA		
Repairs		
Rig Service		
Rig up Csg./ Cmt.		3.0
Run Casing		8.5
Safety		1.0
Slip/Cut Drill Line		
Survey		1.5
Test BOP	3.5	3.5
Tight hole / Fishing		
Tripping		2.0
Wait on Cement	5.0	5.0
Wash / Ream		
Well Control		
Well Test		
Wiper Trip		3.5
Wireline		
Other	4.5	4.5
TOTALS	24.0	65.0
DAILY MUD COSTS		$10,333.94
CUM. MUD COSTS		**$22,520.75**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Followed by 79bbls (380sx) Tail, release top plug, displace w/ 150bbls water, bump plug w/ 650psi, press.to 1300psi f/10 min.,good test
1:00	6:00	"Wait On Cement", no cmt. to surface (flush riser, rig down flow line, cut & lift riser,welder cut & split conductor.)(fluid leval down 5met)
6:00	9:30	Dig out cement floor in cellar, for welder to cut conductor below 13-3/8" csg. Collar for installation of Braden Head, back out Landing jnt
9:30	11:30	Lay out riser, attempt to install Braden Head, thread gaul on pin end up, re-dress same, install B.H., chain tong up same
11:30	12:30	Run plumb bob thru. Rotory table, centre B.H., Welder install centralised "support" brackets on 20" conductor, rig up & torque up B.Hd.
12:30	13:30	Make up 15met.x 1" stinger, run between 20" conductor & 13-3/8" csg,Haliburton perform cmt. Top up job, 30bbls @ 13.0ppg. Rig down
13:30	18:30	Nipple up spacer spool, Skid over 13-5/8" BOP, land & nipple up same & choke manifold
18:30	22:00	Close Blind rams, pressure test csg. / Braden Head / spools & BOP to 1300psi for 10mins, surface equip.200psi low > 5000psi high
22:00	22:30	BOP Accumulatot Test
22:30	0:00	Install Bell nipple & flow line, clear rig floor

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%

SUPERVISOR:	Brian Marriott	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

11/09/2006

REPORT # 04

WELL	**Glenaire 01**	**24:00 DEPTH**	**310m**	**24 HR PROG**	**3m**	**CUM. COSTS**	**$22,521**
RIG	Ensign # 32	**FORMATION**	Dilwyn	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Complete making up 37 std's D.P., Make up 12-1/4" BHA, RIH, tag Flt.., "Kick Drill", drill float, shoe track, rat hole to 307m, switch to KCL / PHPA mud, drill new hole f/ 307m to 310m, circ., perform F.I.T.

REMARKS / FORWARD PLAN: Drill ahead 12-1/4" hole taking surveys as required (note; Performed "Kick Drill" @ float collar, found SIDPP gauge on Swaco unit failed to read pressure, replaced same, all ok)

PERSONNEL ON SITE: 31

LAST CASING	13 3/8"	**SET AT**	304.0m	**LOT**		**MAASP**		**BOP TEST**	10/09/2006	**TEST DUE**	24/09

AFD's: 44 **SAFETY** 1. Safety meeting; 2. **WEATHER AM** sunny **PM** sunny

BIT INFORMATION			
WOB(kLb)	4-7	**JET V(fps)**	274
RPM	80	**H S I**	1.49
BIT NUMBER		**2**	
Size (in)		12.25	
Make		Smith	
Type		XRCPS	
IADC Code		115	
Serial Number		MY0188	
T.F.A.(")		0.601	
Depth In (m)		307	
Depth Out (m)		IN	
Total Meters		3	
Hours		0.5	
ROP		6.0	
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		513	
AV - DP (fpm)		97	
AV - DC (fpm)		146	
SPP (psi)		950	
SPP (calculated)		840	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	90	**RATE**	90
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SCR: 70 @ 50		SCR: 190 @ 80	
SURVEYS			

BHA # 2	
TOOL	**LENGTH**
12.25	0.32
Bit sub	0.89
1 x 8" dc	8.41
12-1/4" stab	1.35
1 x 8" dc	8.79
12-1/4" stab	1.36
3 x 8" dc's	27.95
X-O w/ crows foot	0.65
1 x 6-1/2" NMDC	9.33
10 x 6-1/2" dc's	93.32
Drilling Jars	9.74
1 x 6-1/2" dc	9.43
12 x 4-1/2" HWDP	114.65
BHA LENGTH (m)	286.19
BHA WEIGHT(kLb)	63.5
STRING WT (kLb)	63.7
HOOK LOAD (kLb)	80.0
WT BELOW JARS (kLb)	47.7
DRAG UP (kLb)	80.0
DRAG DOWN (kLb)	80.0
TORQUE ON (Amps/Rel.)	1750
TORQUE OFF (Amps/Rel.)	1000
BULK PRODUCTS	
FUEL ON SITE	33300 Litres
DAILY USAGE	2550 Litres
CUM. FUEL USED	14400 Litres
BARITES ON SITE	-50 kg
BARITES USED	50 kg
MUD MIXED	2150 Bbls
MUD LOSSES	1658 Bbls

MUD PROPERTIES	
Time	2330
Depth (m)	310
Temp (° C)	24
Mud Type	KCl/PHPA/POL
Density (ppg)	8.75
ECD (ppg)	8.78
Viscosity (sec)	40
PV / YP (cp/lb)	5 / 6
Gells (s/m)	1 / 2
API Filt. (cc)	12
Cake (/32")	1
Solids (% Vol)	0.6
Sand (% Vol)	NIL
MBT	1
pH (strip)	12
Chlorides (mg/l)	34000
KCL (%)	7
PHPA (ppb)	0.59
ALC - 50 (K)	
Circ. Vol. (Bbl)	503
CHEMICAL USAGE	

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		9.0
Cementing		3.0
Circ & Condition	0.5	3.5
Coring		
D/O Cement	7.0	7.0
Drilling	8.0	25.5
FIT / LOT	0.5	0.5
Handle BHA		
Repairs	1.0	1.0
Rig Service	0.5	0.5
Rig up Csg./ Cmt.		3.0
Run Casing		8.5
Safety		1.0
Slip/Cut Drill Line		
Survey		1.5
Test BOP		3.5
Tight hole / Fishing		
Tripping	4.0	6.0
Wait on Cement		5.0
Wash / Ream		
Well Control	0.5	0.5
Well Test		
Wiper Trip		3.5
Wireline		
Other	2.0	6.5
TOTALS	24.0	89.0
DAILY MUD COSTS		
CUM. MUD COSTS		**$22,520.75**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Complete cleaning drill pipe on racks, Tally same
2:00	9:30	Hold PJSM & review JSA, pick up stands of drill pipe for next 12-1/4" section of hole & rack in Mast
9:30	10:00	Rig Service
10:00	14:00	Make up 12-1/4" BHA, RIH, break circ. w/ water, tag float @ 291m (no cement above float collar)
14:00	14:30	Sound alarm, Shut in well, Drill crew to rig floor for a "Drill", circ. thru choke w/ 30spm @ 150psi, via Choke manifold to Poor Boy
14:30	15:30	Drill on float collar with water via short system
15:30	16:30	Tesco Top Drive failed due to low voltage turbo shut downs & shut downs for hot oil shuttle valve, re-set turbo's & re-ajust oil shuttle valve
16:30	22:30	Cont. drill, shoe track, shoe & rat hole to 307met.
22:30	23:00	Drill 12-1/4" hole f/ 307m to 310m w/ new KCL / PHPA mud
23:00	23:30	Circ. & conditiom 8.7ppg mud in & out
23:30	0:00	Perform F.I.T. @ 13-3/8" shoe, depth = 304m (997ft) = 170psi > mud wt. = 8.8ppg > EMW = 12ppg

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %
SUPERVISOR: Brian Marriott	**GEOLOGIST:** David Horner	**MUD CO:** RMN Drilling Fluids	

DAILY DRILLING REPORT

12/09/2006

REPORT # 05

WELL	**Glenaire 01**	**24:00 DEPTH**	**883m**	**24 HR PROG**	**573m**	**CUM. COSTS**	**$39,918**
RIG	Ensign # 32	**FORMATION**	Eumeralla	**PTD**	3945m	**DAILY COSTS**	$17,397.03

OP's TO 06:00 Drill ahead 12-1/4" hole f/ 310m to 883m, taking surveys as required, wiper to 13-3/8" shoe

REMARKS / FORWARD PLAN: 06:00 hrs on 13th = Drlg. Thru. 988m > > Forward plan = Drill ahead to 9-5/8" csg. point @ 1255m, circ. bot's up, wiper to 883m, circ. bot's up, POOH to run 9-5/8" csg.

PERSONNEL ON SITE: 31

LAST CASING	13 3/8"	**SET AT**	304.0m	**LOT**		**MAASP**		**BOP TEST**	10/09/2006	**TEST DUE**	24/09

AFD's: 45 **SAFETY** 1. 2.

WEATHER AM sunny
PM sunny

BIT INFORMATION			
WOB(kLb)	6-20	**JET V(fps)**	334
RPM	130	**H S I**	2.86
BIT NUMBER		**2**	
Size (in)		12.25	
Make		Smith	
Type		XRCPS	
IADC Code		115	
Serial Number		MY0188	
T.F.A.(")		0.601	
Depth In (m)		307	
Depth Out (m)		IN	
Total Meters		576	
Hours		19	
ROP		30.3	
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		627	
AV - DP (fpm)		118	
AV - DC (fpm)		179	
SPP (psi)		1650	
SPP (calculated)		1420	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	110	**RATE**	110
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SCR: 160 @ 50		SCR: 280 @ 80	
SURVEYS			
1.25° at 400m		0.25° at 834m	
0.75° at 544m			
0.5° at 690m			

BHA # 2	
TOOL	**LENGTH**
12.25	0.32
Bit sub	0.89
1 x 8" dc	8.41
12-1/4" stab	1.35
1 x 8" dc	8.79
12-1/4" stab	1.36
3 x 8" dc's	27.95
X-O w/ crows foot	0.65
1 x 6-1/2" NMDC	9.33
10 x 6-1/2" dc's	93.32
Drilling Jars	9.74
1 x 6-1/2" dc	9.43
12 x 4-1/2" HWDP	114.65
BHA LENGTH (m)	286.19
BHA WEIGHT(kLb)	63.0
STRING WT (kLb)	66.8
HOOK LOAD (kLb)	117.0
WT BELOW JARS (kLb)	47.4
DRAG UP (kLb)	120.0
DRAG DOWN (kLb)	117.0
TORQUE ON (Amps/Rel.)	4200
TORQUE OFF (Amps/Rel.)	1500
BULK PRODUCTS	
FUEL ON SITE	28750 Litres
DAILY USAGE	4550 Litres
CUM. FUEL USED	18950 Litres
BARITES ON SITE	-75 kg
BARITES USED	75 kg
MUD MIXED	2800 Bbls
MUD LOSSES	2024 Bbls

MUD PROPERTIES	
Time	2200
Depth (m)	884
Temp (° C)	39
Mud Type	KCl/PHPA/POL
Density (ppg)	9.20
ECD (ppg)	9.26
Viscosity (sec)	38
PV / YP (cp/lb)	7 / 9
Gells (s/m)	2 / 4
API Filt. (cc)	9.4
Cake (/32")	1
Solids (% Vol)	4
Sand (% Vol)	1.75
MBT	9
pH (strip)	9.5
Chlorides (mg/l)	26000
KCL (%)	5.7
PHPA (ppb)	1
ALC - 50 (K)	
Circ. Vol. (Bbl)	807
CHEMICAL USAGE	
AMC Pac- LV	14
Barite	32
Biocide G	4
Caustic Soda	3
Defoamer	1
Kwikseal M	20
PHPA	14
Sodium Sulphite	6
Xanthan Gum	15
KCL	276

OPERATION	HRS	CUM
BOP's / Wellhead		9.0
Cementing		3.0
Circ & Condition	0.5	4.0
Coring		
D/O Cement		7.0
Drilling	18.5	44.0
FIT / LOT		0.5
Handle BHA		
Repairs	1.5	2.5
Rig Service		0.5
Rig up Csg./ Cmt.		3.0
Run Casing		8.5
Safety		1.0
Slip/Cut Drill Line		
Survey	2.0	3.5
Test BOP		3.5
Tight hole / Fishing		
Tripping		6.0
Wait on Cement		5.0
Wash / Ream		
Well Control		0.5
Well Test		
Wiper Trip	1.5	5.0
Wireline		
Other		6.5
TOTALS	24.0	113.0
DAILY MUD COSTS		$17,397.03
CUM. MUD COSTS		**$39,917.78**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	5:30	Take SCR's, Drill 12-1/4" hole f/ 310m to 450m (slight seepage losses @ 380m, 10bbls/hr, add LCM, ok)
5:30	6:00	Circ. & survey @ 400m, 1-1/4 deg., N21W, AZI = 346
6:00	7:00	Drill f/ 450m to 495m
7:00	7:30	TDS failed, lost High / Low RPM, fault find, 20amp fuse blown in 24volt drillers panel, replace fuse (Work pipe during repairs)
7:30	11:00	Drill f/ 495m to 594m, ream each stand twice due to last survey
11:00	11:30	Circ. & survey @ 544m, 3/4 deg., N20E, AZI = 27
11:30	12:30	TDS failed, fault find same, ESM vaults low, unable to start engine, change fuses, all ok (Work pipe during repairs)
12:30	17:00	Drill f/ 594m to 739m
17:00	17:30	Circ. & survey @ 690met., 1/2 deg., S60W, AZI = 247
17:30	21:30	Drill f/ 739m to 883m
21:30	22:00	Sweep Hi Vis & Circ. Bottoms up
22:00	22:30	Survey @ 834m, 1/4 deg., N60W, AZI = 307
22:30	0:00	Pump slug, flow check, Wiper trip, tight hole f/ 854m to 835m, max over pull = 25k, re-wipe section

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	David Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

13/09/2006

REPORT # 06

WELL	**Glenaire 01**	**24:00 DEPTH**	**1248m**	**24 HR PROG**	**365m**	**CUM. COSTS**	**$46,795**
RIG	Ensign # 32	**FORMATION**	Eumeralla	**PTD**	3945m	**DAILY COSTS**	$6,877.23

OP's TO 06:00 Drill f/ 883m to 1255m, taking surveys as required, circ. bottoms up, Wiper trip back to 864m, RIH to bottom, circ.bottoms up & POOH to run 9-5/8" csg.

REMARKS / FORWARD PLAN: Present Op. @ 06:00hrs = Circ. hole clean >>> Forward plan = POOH, lay out 12-1/4" stab. & bit, rig & run 105 jnt's 9-5/8" csg., cement same,

PERSONNEL ON SITE: 32

LAST CASING	13 3/8"	**SET AT**	304.0m	**LOT**	12.2ppg	**MAASP**	**149psi**	**BOP TEST**	10/09/2006	**TEST DUE**	24/09

AFD's: 46 **SAFETY** 1. 2. **WEATHER AM** suuny **PM** rain

BIT INFORMATION			
WOB(kLb)	10-20	**JET V(fps)**	334
RPM	130	**H S I**	2.89
BIT NUMBER		**2**	
Size (in)		12.25	
Make		Smith	
Type		XRCPS	
IADC Code		115	
Serial Number		MY0188	
T.F.A.(")		0.601	
Depth In (m)		307	
Depth Out (m)		IN	
Total Meters		941	
Hours		39.5	
ROP		23.8	
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		627	
AV - DP (fpm)		118	
AV - DC (fpm)		179	
SPP (psi)		1850	
SPP (calculated)		1540	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	110	**RATE**	110
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SCR: 200 @ 50		SCR: 320 @ 80	
SURVEYS			
1.0° at 978m			
1.75° at 1094m			
1.5° at 1200m			

BHA # 2	
TOOL	**LENGTH**
12.25	0.32
Bit sub	0.89
1 x 8" dc	8.41
12-1/4" stab	1.35
1 x 8" dc	8.79
12-1/4" stab	1.36
3 x 8" dc's	27.95
X-O w/ crows foot	0.65
1 x 6-1/2" NMDC	9.33
10 x 6-1/2" dc's	93.32
Drilling Jars	9.74
1 x 6-1/2" dc	9.43
12 x 4-1/2" HWDP	114.65
BHA LENGTH (m)	286.19
BHA WEIGHT(kLb)	62.9
STRING WT (kLb)	69.0
HOOK LOAD (kLb)	135.0
WT BELOW JARS (kLb)	47.3
DRAG UP (kLb)	137.0
DRAG DOWN (kLb)	135.0
TORQUE ON (Amps/Rel.)	3000
TORQUE OFF (Amps/Rel.)	1500
BULK PRODUCTS	
FUEL ON SITE	49300 Litres
DAILY USAGE	6018 Litres
CUM. FUEL USED	24968 Litres
BARITES ON SITE	-100 kg
BARITES USED	100 kg
MUD MIXED	3100 Bbls
MUD LOSSES	2122 Bbls

MUD PROPERTIES	
Time	2100
Depth (m)	1224
Temp (° C)	48
Mud Type	KCl/PHPA/POL
Density (ppg)	9.30
ECD (ppg)	9.38
Viscosity (sec)	40
PV / YP (cp/lb)	9 / 12
Gells (s/m)	3 / 7
API Filt. (cc)	9.4
Cake (/32")	1
Solids (% Vol)	4.7
Sand (% Vol)	0.75
MBT	13.3
pH (strip)	9.5
Chlorides (mg/l)	26000
KCL (%)	5.8
PHPA (ppb)	0.97
ALC - 50 (K)	
Circ. Vol. (Bbl)	964
CHEMICAL USAGE	
AMC Pac- LV	6
Biocide G	1
Caustic Soda	3
Defoamer	1
Kwikseal M	5
PHPA	3
Soda Ash	8
Sodium Sulphite	4
Xanthan Gum	7
KCL	100

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		9.0
Cementing		3.0
Circ & Condition		4.0
Coring		
D/O Cement		7.0
Drilling	20.5	64.5
FIT / LOT		0.5
Handle BHA		
Repairs		2.5
Rig Service	0.5	1.0
Rig up Csg./ Cmt.		3.0
Run Casing		8.5
Safety		1.0
Slip/Cut Drill Line	0.5	0.5
Survey	1.0	4.5
Test BOP		3.5
Tight hole / Fishing		
Tripping		6.0
Wait on Cement		5.0
Wash / Ream	0.5	0.5
Well Control		0.5
Well Test		
Wiper Trip	1.0	6.0
Wireline		
Other		6.5
TOTALS	24.0	137.0
DAILY MUD COSTS		$6,877.23
CUM. MUD COSTS		**$46,795.01**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Wiper trip back to 13-3/8" shoe @ 304m, hole good
0:30	1:00	Rig service
1:00	1:30	Slip drilling line
1:30	2:00	RIH f/ shoe to 854m
2:00	2:30	Break circ., wash & ream f/854m to 883m (1met. Fill)
2:30	7:30	Drill 12-1/4" hole f/ 883m to 1028m
7:30	8:00	Circ. & survey @ 978m, 1 deg., N60E, AZI = 67
8:00	13:00	Drill f/ 1028m to 1143m
13:00	13:30	Circ. & survey @ 1094m, 1-3/4 deg., N18E, AZI = 25
13:30	0:00	Drill f/ 1143m to 1248m, T.D. 9-5/8" csg. Depth (Note; f/ 1150 met., ROP dropped f/ 28mph down to 4mph > 13mph)

MAXIMUM GAS:	23.7% @ 1061m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	David Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

14/09/2006

REPORT # 07

WELL	**Glenaire 01**	**24:00 DEPTH**	**1255m**	**24 HR PROG**	**7m**	**CUM. COSTS**	**$47,123**
RIG	Ensign # 32	**FORMATION**	Eumeralla	**PTD**	3945m	**DAILY COSTS**	$328.00

OP's TO 06:00 POOH, rig & run 105 jnt's of 9-5/8" csg., set shoe @ 1252met., circ. & cement same, bump plug w/ 2800psi, bleed off, float holding, flush BOP prior to nippling down to install slips & "B" section

REMARKS / FORWARD PLAN: Pres.Op. @ 06:00hrs = flush BOP, Fwd. plan = rig down, set slips, rough cut csg./dress stub, install "B" sect., press.test BOP, M.U.std's D.P, rack in Mast, make up 8-1/2" BHA

PERSONNEL ON SITE: 32

LAST CASING	13 3/8"	**SET AT**	304.0m	**LOT**	12.2ppg	**MAASP**	**149psi**	**BOP TEST**	10/09/2006	**TEST DUE**	24/09

AFD's: 47

SAFETY 1. 2. Toolbox talk daily

WEATHER AM sunny
PM overcast

BIT INFORMATION

WOB(kLb)	10-18	**JET V(fps)**	334
RPM	130	**H S I**	2.89
BIT NUMBER		**2**	
Size (in)		12.25	
Make		Smith	
Type		XRCPS	
IADC Code		115	
Serial Number		MY0188	
T.F.A.(")		0.601	
Depth In (m)		307	
Depth Out (m)		1255	
Total Meters		948	
Hours		40	
ROP		23.7	
Condition Out		2 2 NO A 2 1 NR TD	

FLOW DATA

CIRC. RATE (gpm)	627
AV - DP (fpm)	118
AV - DC (fpm)	179
SPP (psi)	1850
SPP (calculated)	1510

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	110	**RATE**	110
LINER	6.0"	**LINER**	6.0"
STROKE	8.0"	**STROKE**	8.0"
SCR: 200 @ 50		SCR: 320 @ 80	

SURVEYS

BHA # 2

TOOL	**LENGTH**
12.25	0.32
Bit sub	0.89
1 x 8" dc	8.41
12-1/4" stab	1.35
1 x 8" dc	8.79
12-1/4" stab	1.36
3 x 8" dc's	27.95
X-O w/ crows foot	0.65
1 x 6-1/2" NMDC	9.33
10 x 6-1/2" dc's	93.32
Drilling Jars	9.74
1 x 6-1/2" dc	9.43
12 x 4-1/2" HWDP	114.65
BHA LENGTH (m)	286.19
BHA WEIGHT(kLb)	62.9
STRING WT (kLb)	69.0
HOOK LOAD (kLb)	135.0
WT BELOW JARS (kLb)	47.3
DRAG UP (kLb)	137.0
DRAG DOWN (kLb)	135.0
TORQUE ON (Amps/Rel.)	3000
TORQUE OFF (Amps/Rel.)	1500

BULK PRODUCTS

FUEL ON SITE	43950 Litres
DAILY USAGE	5350 Litres
CUM. FUEL USED	30318 Litres
BARITES ON SITE	-100 kg
BARITES USED	100 kg
MUD MIXED	3100 Bbls
MUD LOSSES	2257 Bbls

MUD PROPERTIES

Time	0515
Depth (m)	1255
Temp (° C)	46
Mud Type	KCl/PHPA/POL
Density (ppg)	9.30
ECD (ppg)	9.38
Viscosity (sec)	40
PV / YP (cp/lb)	8 / 12
Gells (s/m)	3 / 6
API Filt. (cc)	9.2
Cake (/32")	1
Solids (% Vol)	4.5
Sand (% Vol)	0.5
MBT	13.3
pH (strip)	9.5
Chlorides (mg/l)	26600
KCL (%)	6.1
PHPA (ppb)	0.97
ALC - 50 (K)	
Circ. Vol. (Bbl)	894

CHEMICAL USAGE

Barite	40

OPERATION

	HRS	CUM
BOP's / Wellhead		9.0
Cementing		3.0
Circ & Condition	3.0	7.0
Coring		
D/O Cement		7.0
Drilling	0.5	65.0
FIT / LOT		0.5
Handle BHA		
Repairs		2.5
Rig Service		1.0
Rig up Csg./ Cmt.	3.0	6.0
Run Casing	9.5	18.0
Safety		1.0
Slip/Cut Drill Line		0.5
Survey	0.5	5.0
Test BOP		3.5
Tight hole / Fishing		
Tripping	5.0	11.0
Wait on Cement		5.0
Wash / Ream	0.5	1.0
Well Control		0.5
Well Test		
Wiper Trip	2.0	8.0
Wireline		
Other		6.5
TOTALS	24.0	161.0

DAILY MUD COSTS	$328.00
CUM. MUD COSTS	**$47,123.01**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Drill 12-1/4" hole f/ 1248m to 1255m
0:30	1:30	Pump sweep, circ. hole clean, (sample up = 80% silt > 20% sand for casing seat)
1:30	2:00	Survey @ 1200m, 1-1/2 deg., N25E, AZI = 32
2:00	3:30	Wiper trip back to 864m, intermittant tight hole, max 35k over pull, wipe stand thru. each section, ok
3:30	4:00	RIH, to 1220m, hole good, hung up @ 1221m
4:00	4:30	Wash & ream f/ 1221m to 1225m, 1/2 met. Fill
4:30	6:30	Pump sweep, circ. hole clean.
6:30	11:30	Pump slug, POOH, lay out 12-1/4" stab.,bit, & #2 x 8" dc's, clear rig floor (top stab. = 1/16" u.g. > bottom = 1/4" u.g. > bit = 1/16" u.g.)
11:30	14:30	Rig to run 9-5/8" csg., change out rams to 9-5/8", run cup tester, press. test BOP doors to 1200psi, ok, lay out cup tester, Safety Meeting
14:30	0:00	M.U. shoe jnt., fill w/ mud, check flow thru., make up float, check flow thru., Run to 13-3/8" shoe, break circ., run to 1229m, wash to 1241m

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	David Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

15/09/2006

REPORT # 08

WELL	**Glenaire 01**	**24:00 DEPTH**	**1255m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Eumeralla	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Set 9-5/8" shoe @ 1252m, Cmt. Csg., nipple down BOP, set slip & seal, L/O Cmt, Hd. & rough cut csg., chain block failure, repair same, final cut csg. stub, dress same, install "B" section, DSA & BOP, press. Test BOP

REMARKS / FORWARD PLAN: Complete testing BOP, set wear bushing, lay out 8"dc's, make up 36std's d.p. & rack in Mast, make up DSX519M, PDC bit & RIH, "Kick Drill", drill flt. & shoe, L/O, drill ahead

PERSONNEL ON SITE: 31

LAST CASING	9 5/8"	**SET AT**	1252.0m	**LOT**		**MAASP**		**BOP TEST**	10/09/2006	**TEST DUE**	24/09

AFD's: 48

SAFETY 1.
2. Toolbox talk daily

WEATHER AM overcast
PM overcast

BIT INFORMATION

WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA	
CIRC. RATE (gpm)	
AV - DP (fpm)	
AV - DC (fpm)	
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS	

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	41600 Litres
DAILY USAGE	2350 Litres
CUM. FUEL USED	32668 Litres
BARITES ON SITE	
BARITES USED	
MUD MIXED	3146 Bbls
MUD LOSSES	2257 Bbls

MUD PROPERTIES	
Time	2145
Depth (m)	1255
Temp (° C)	31
Mud Type	KCl/PHPA/POL
Density (ppg)	9.20
ECD (ppg)	
Viscosity (sec)	40
PV / YP (cp/lb)	7 / 10
Gells (s/m)	2 / 4
API Filt. (cc)	9.2
Cake (/32")	1
Solids (% Vol)	3.8
Sand (% Vol)	0.25
MBT	15
pH (strip)	8.8
Chlorides (mg/l)	25000
KCL (%)	5.7
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	940

CHEMICAL USAGE	

OPERATION	**HRS**	**CUM**
BOP's / Wellhead	9.5	18.5
Cementing	2.5	5.5
Circ & Condition	1.0	8.0
Coring		
D/O Cement		7.0
Drilling		65.0
FIT / LOT		0.5
Handle BHA		
Repairs	3.5	6.0
Rig Service		1.0
Rig up Csg./ Cmt.	1.0	7.0
Run Casing	1.0	19.0
Safety		1.0
Slip/Cut Drill Line		0.5
Survey		5.0
Test BOP		3.5
Tight hole / Fishing		
Tripping		11.0
Wait on Cement		5.0
Wash / Ream		1.0
Well Control		0.5
Well Test		
Wiper Trip		8.0
Wireline		
Other	5.5	12.0
TOTALS	24.0	185.0

DAILY MUD COSTS	
CUM. MUD COSTS	**$47,123.01**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Cont.wash f/1241m to 1252m, (run a total 105 jnt's x 9-5/8" x K55 x 36lb/ft x BTC csg.), set shoe @ 1252met.
1:00	2:00	Circ. prior to cmt. Job, load cmt. plug in Halliburton Head, rig up chicksans, Safety Meeting
2:00	3:00	Head up Halliburton, pump 50bbls water w/ rig pump, pump 5bbls w/ Hali.test lines to 4000psi, ok, release bottom plug, pump 5bbls water
3:00	5:00	Mix & pump 297bbls (783 sx) Lead cmt. @ 12.5ppg, followed by 31bbls (148sx) Tail, displace with rig pump 314bbls mud
5:00	5:30	Bump w/ 2000psi, close lo-torque valve f/ rig pump, press.up to 2800psi w/ HOWCO for 10min., ok, bleed back 3bbls, flt. holding
5:30	11:00	Flush BOP w/ water, monitor well, rig down Howco & spacer spool, lift BOP, set slips, rough cut csg. @ 8" above B.H., lay out csg.& cmt.Hd.
11:00	12:30	Attempt to lower BOP back onto spacer spool, chain block failed, BOP cocked, rig up sling to blocks, lift & leval BOP, lower same onto B.H.
12:30	14:30	Replace chain block, lift BOP to inspect 9-5/8" csg. cut off stub, noticed top 8" cut off section slightly out of round, caliper @ 5-1/8" sect., ok
14:30	0:00	Final cut csg. stub to 5-1/8" & dress same, install "B" section, press. test same, install DSA & BOP (fit 5" liners to mud pumps)

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%

SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	David Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

16/09/2006

REPORT # 09

WELL	**Glenaire 01**	**24:00 DEPTH**	**1255m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Eumeralla	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Press. tast BOP, make up bit & BHA, RIH p.u. sgls d.p., "Well Control Drill", slip/cut Drlg. Line, cont. RIH p.u.d.p, drill flt, shoe & rat hole to 1255m, drill to 1258m, circ., L/O, EMW = 13.7ppg, drill f/1258 to 1333m

REMARKS / FORWARD PLAN: Drill ahead taking surveys every 150met. **PERSONNEL ON SITE:** 32

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**		**MAASP**		**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 49 **SAFETY** 1. 2. Toolbox talk daily **WEATHER AM** sunny **PM** sunny

BIT INFORMATION			
WOB(kLb)	3-4	**JET V(fps)**	168
RPM	145	**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA	
CIRC. RATE (gpm)	315
AV - DP (fpm)	60
AV - DC (fpm)	72
SPP (psi)	650
SPP (calculated)	470

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	75	**RATE**	75
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 180 @ 50		SCR: 240 @ 80	

SURVEYS	

BHA # 3	
TOOL	**LENGTH**
8.5 Bit	0.23
NBS	1.26
Mud Motor	9.58
Stab	1.14
NMDC	8.33
Stab	1.14
15x6.5" dc's	112.15
Drilling Jars	9.74
3x6.25 dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	285.53
BHA WEIGHT(kLb)	51.6
STRING WT (kLb)	57.8
HOOK LOAD (kLb)	136.0
WT BELOW JARS (kLb)	32.0
DRAG UP (kLb)	136.0
DRAG DOWN (kLb)	136.0
TORQUE ON (Amps/Rel.)	2979
TORQUE OFF (Amps/Rel.)	1943

BULK PRODUCTS	
FUEL ON SITE	41250 Litres
DAILY USAGE	2350 Litres
CUM. FUEL USED	33018 Litres
BARITES ON SITE	-100 kg
BARITES USED	100 kg
MUD MIXED	3146 Bbls
MUD LOSSES	2298 Bbls

MUD PROPERTIES	
Time	2345
Depth (m)	1255
Temp (° C)	36
Mud Type	KCl/PHPA/POL
Density (ppg)	9.10
ECD (ppg)	9.28
Viscosity (sec)	50
PV / YP (cp/lb)	9 / 13
Gells (s/m)	3 / 9
API Filt. (cc)	9.8
Cake (/32")	1
Solids (% Vol)	3.1
Sand (% Vol)	0.2
MBT	13.3
pH (strip)	12
Chlorides (mg/l)	23500
KCL (%)	5.5
PHPA (ppb)	0.96
ALC - 50 (K)	
Circ. Vol. (Bbl)	899

CHEMICAL USAGE	
Biocide G	1
PHPA	1
Soda Ash	8
Sodium Sulphite	2

OPERATION	**HRS**	**CUM**
BOP's / Wellhead	4.0	22.5
Cementing		5.5
Circ & Condition		8.0
Coring		
D/O Cement	2.5	9.5
Drilling		65.0
FIT / LOT		0.5
Handle BHA	1.0	1.0
Repairs	0.5	6.5
Rig Service	0.5	1.5
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line	1.0	1.5
Survey		5.0
Test BOP	5.0	8.5
Tight hole / Fishing		
Tripping	9.0	20.0
Wait on Cement		5.0
Wash / Ream		1.0
Well Control	0.5	1.0
Well Test		
Wiper Trip		8.0
Wireline		
Other		12.0
TOTALS	24.0	209.0

DAILY MUD COSTS	$517.25
CUM. MUD COSTS	**$47,640.26**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	4:00	Cont. nipple up BOP, riser & flow line, change pipe rams to 4-1/2", function test pipe rams
4:00	7:30	Make up combination tool test plug, RIH & set same, pressure test BOP, 200psi low & 2800psi high, Conduct Accumulator Test
7:30	9:00	Pull comb. Tool., close blind rams, press. Test same to 2800psi, reverse comb. Tool, run & set wear bushing, pull & lay out tool
9:00	9:30	Rig Service
9:30	10:30	Hold PJSM, lay out 8" dc's
10:30	15:30	Make up bit, DSX519M & BHA, RIH to 535m
15:30	16:00	Ajust Crown -Omatic
16:00	19:00	Cont. RIH p.u. singles d.p. to 1104m
19:00	19:30	Conduct"Well Control Drill", close annular, sound "Muster Alarm", circ.thru ajustable choke, holding back press.w/ choke, via Poor Boy
19:30	20:30	Cont. RIH, picking up singles d.p. to 1200m
20:30	21:30	Slip & cut drilling line
21:30	0:00	Break circ., wash to top of Float @ 1239m, drill float, shoe track & shoe @ 1252m, rat hole to 1255met.

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %
SUPERVISOR: Brian Marriott	**GEOLOGIST:** Dave Horner	**MUD CO:** RMN Drilling Fluids	

DAILY DRILLING REPORT

17/09/2006

REPORT # 10

WELL	**Glenaire 01**	**24:00 DEPTH**	**1778m**	**24 HR PROG**	**523m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Eumeralla	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Control drill ahead f/ 1778m to 1850m, taking 90m surveys due to deviation.

REMARKS / FORWARD PLAN: Drill ahead, taking survey as required, drill to 2150m + - , wiper trip back to shoe

PERSONNEL ON SITE: 33

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**		**MAASP**		**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 50 **SAFETY** 1. 2. Safety meeting

WEATHER AM sunny
PM sunny

BIT INFORMATION

WOB(kLb)	3-6	**JET V(fps)**	264
RPM	200	**H S I**	2.69
BIT NUMBER		**3**	
Size (in)		8.5	
Make		Hyc	
Type		DSX519M	
IADC Code		PDC	
Serial Number		211741	
T.F.A.(")		0.552	
Depth In (m)		1255	
Depth Out (m)		IN	
Total Meters		523	
Hours		20.5	
ROP		25.5	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	454
AV - DP (fpm)	214
AV - DC (fpm)	371
SPP (psi)	1490
SPP (calculated)	1480

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 180 @ 40		SCR: 240 @ 60	

SURVEYS

1.0° at 1362m	3.0° at 1767m
0.75° at 1507m	
2.25° at 1652m	

BHA # 3

TOOL	**LENGTH**
8.5 Bit	0.23
NBS	1.26
Mud Motor	9.58
Stab	1.14
NMDC	8.33
Stab	1.14
15x6.5" dc's	112.15
Drilling Jars	9.74
3x6.25 dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	285.53
BHA WEIGHT(kLb)	51.5
STRING WT (kLb)	60.9
HOOK LOAD (kLb)	158.0
WT BELOW JARS (kLb)	31.9
DRAG UP (kLb)	160.0
DRAG DOWN (kLb)	158.0
TORQUE ON (Amps/Rel.)	4500
TORQUE OFF (Amps/Rel.)	1230

BULK PRODUCTS

FUEL ON SITE	34000 Litres
DAILY USAGE	7250 Litres
CUM. FUEL USED	40268 Litres
BARITES ON SITE	-100 kg
BARITES USED	100 kg
MUD MIXED	3326 Bbls
MUD LOSSES	2431 Bbls

MUD PROPERTIES

Time	2125
Depth (m)	1730
Temp (° C)	46
Mud Type	KCl/PHPA/POL
Density (ppg)	9.25
ECD (ppg)	9.49
Viscosity (sec)	45
PV / YP (cp/lb)	10 / 14
Gells (s/m)	3 / 12
API Filt. (cc)	9
Cake (/32")	1
Solids (% Vol)	4
Sand (% Vol)	0.25
MBT	15
pH (strip)	10.5
Chlorides (mg/l)	22000
KCL (%)	5.6
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	778

CHEMICAL USAGE

AMC Pac- LV	11
Biocide G	2
Caustic Soda	1
PHPA	2
Soda Ash	8
Sodium Sulphite	8
Xanthan Gum	4
KCL	72
Xtra Sweep	1

OPERATION

OPERATION	HRS	CUM
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition	1.0	9.0
Coring		
D/O Cement		9.5
Drilling	20.5	85.5
FIT / LOT	0.5	1.0
Handle BHA		1.0
Repairs		6.5
Rig Service	0.5	2.0
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line		1.5
Survey	1.5	6.5
Test BOP		8.5
Tight hole / Fishing		
Tripping		20.0
Wait on Cement		5.0
Wash / Ream		1.0
Well Control		1.0
Well Test		
Wiper Trip		8.0
Wireline		
Other		12.0
TOTALS	24.0	233.0

DAILY MUD COSTS	$5,742.28
CUM. MUD COSTS	**$53,382.54**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Drill 8-1/2" hole f/ 1255m to 1258m
0:30	1:30	Circ. Hole clean & condition mud
1:30	2:00	Pull inside shoe, conduct Leak Off test, 1000psi w/ 9.1ppg = EMW of 13.7ppg
2:00	7:00	Drill f/ 1258m to 1374m
7:00	7:30	Rig service
7:30	8:00	Circ. & survey @ 1362m, 1 deg., N70E AZI = 77
8:00	12:30	Drill f/ 1374m to 1518m
12:30	13:00	Circ. & survey @ 1507m, 3/4 deg., N65E, AZI = 72
13:00	17:00	Drill f/1518m to 1663m (2 x 108spm = 454gpm) > (454gpm x 0.288 = 131rpm @ bit) + (rotory = 75rpm) = (131rpm + 75rpm = 201rpm)
17:00	17:30	Circ. & survey @ 1652m, 2.25 deg., N25E, AZI = 32
17:30	0:00	Drill f/ 1663m to 1778m

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %

SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

18/09/2006

REPORT # 11

WELL	**Glenaire 01**	**24:00 DEPTH**	**2125m**	**24 HR PROG**	**347m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Circ. & survey @ 1767 = 3 deg., N15E, Drill f/ 1778m to 2154m taking surveys as required, circ., survey @ 2142m = 3-1/4 deg.N25E, Wiper trip to 9-5/8" shoe, hole slick, no over pull, RIH

REMARKS / FORWARD PLAN: 3 x loads of 7" csg. arrived >/> Complete wiper trip, drill ahead f/ 2154m to 3000m + -, taking surveys as required

PERSONNEL ON SITE: 32

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**		**MAASP**		**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 51 **SAFETY** 1. 2. Toolbox talk daily

WEATHER AM overcast
PM light shower

BIT INFORMATION			
WOB(kLb)	3-6	**JET V(fps)**	264
RPM	200	**H S I**	2.70
BIT NUMBER		**3**	
Size (in)		8.5	
Make		Hyc	
Type		DSX519M	
IADC Code		PDC	
Serial Number		211741	
T.F.A.(")		0.552	
Depth In (m)		1255	
Depth Out (m)		IN	
Total Meters		870	
Hours		43	
ROP		20.2	
Condition Out			

FLOW DATA	
CIRC. RATE (gpm)	454
AV - DP (fpm)	214
AV - DC (fpm)	371
SPP (psi)	1580
SPP (calculated)	1540

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 200 @ 40		SCR: 280 @ 60	

SURVEYS	
3.25° at 1854m	
3.75° at 1999m	
3.25° at 2142m	

BHA # 3	
TOOL	**LENGTH**
8.5 Bit	0.23
NBS	1.26
Mud Motor	9.58
Stab	1.14
NMDC	8.33
Stab	1.14
15x6.5" dc's	112.15
Drilling Jars	9.74
3x6.25 dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	285.53
BHA WEIGHT(kLb)	51.5
STRING WT (kLb)	63.1
HOOK LOAD (kLb)	177.0
WT BELOW JARS (kLb)	31.9
DRAG UP (kLb)	178.0
DRAG DOWN (kLb)	173.0
TORQUE ON (Amps/Rel.)	4200
TORQUE OFF (Amps/Rel.)	3600

BULK PRODUCTS	
FUEL ON SITE	29850 Litres
DAILY USAGE	4150 Litres
CUM. FUEL USED	44418 Litres
BARITES ON SITE	-125 kg
BARITES USED	125 kg
MUD MIXED	3526 Bbls
MUD LOSSES	2548 Bbls

MUD PROPERTIES	
Time	2145
Depth (m)	2084
Temp (° C)	51
Mud Type	KCl/PHPA/POL
Density (ppg)	9.30
ECD (ppg)	9.55
Viscosity (sec)	42
PV / YP (cp/lb)	10 / 14
Gells (s/m)	3 / 10
API Filt. (cc)	8.4
Cake (/32")	1
Solids (% Vol)	4.5
Sand (% Vol)	0.25
MBT	17.5
pH (strip)	9.8
Chlorides (mg/l)	25000
KCL (%)	5.9
PHPA (ppb)	1.04
ALC - 50 (K)	
Circ. Vol. (Bbl)	831

CHEMICAL USAGE	
AMC Pac- LV	6
Biocide G	1
Caustic Soda	1
Defoamer	1
PHPA	6
Soda Ash	2
Xanthan Gum	4
KCL	84

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition		9.0
Coring		
D/O Cement		9.5
Drilling	22.5	108.0
FIT / LOT		1.0
Handle BHA		1.0
Repairs		6.5
Rig Service		2.0
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line		1.5
Survey	1.5	8.0
Test BOP		8.5
Tight hole / Fishing		
Tripping		20.0
Wait on Cement		5.0
Wash / Ream		1.0
Well Control		1.0
Well Test		
Wiper Trip		8.0
Wireline		
Other		12.0
TOTALS	24.0	257.0

DAILY MUD COSTS	$5,119.33
CUM. MUD COSTS	**$58,501.87**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Circ. & survey @ 1767m, 3 deg., N15E, AZI = 22
0:30	7:30	Drill f/ 1778m to 1865m (control drill due to deviation) (only drilled 87met. to re-check deviation)
7:30	8:00	Circ. & survey @ 1854m, 3.25 deg., N10E, AZI = 17
8:00	14:30	Drill f/ 1865m to 1991m (drill ahead) (Laira formation top came in @ 1968met.)
14:30	15:30	Control drill @ Geo. Request @ 20mph f/ 1991m to 2010m
15:30	16:00	Circ. & survey @ 1999m, 3-3/4 deg., N35E, AZI = 42
16:00	21:00	Control drill @ Geo. request f/ 2010m to 2077m(reduce pump str./gpm f/ 453gpm to 360 w/ control drilling to prevent washing out formation)
21:00	0:00	Drill ahead f/ 2077m to 2125m

MAXIMUM GAS:	1128% @ 1951m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

19/09/2006

REPORT # 12

WELL	**Glenaire 01**	**24:00 DEPTH**	**2365m**	**24 HR PROG**	**240m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Complete wiper trip, hole in good shape, light wash & ream last stand to bottom @ 2154m, Drill ahead f/ 2154m to 2386m, taking surveys as required, surv. @ 2374m = 6 deg, circ., POOH to run a Pendalum Ass., hole slick

REMARKS / FORWARD PLAN: Received 51x26lb/ft jnt's 7"csg. >/> POOH to run a Pendalum assembly, RIH, drill ahead to 3000m + -, taking surveys as required

PERSONNEL ON SITE: 33

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**		**MAASP**		**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 52

SAFETY
1.
2. Toolbox talk daily

WEATHER AM overcast
PM rain

BIT INFORMATION

WOB(kLb)	3-6	**JET V(fps)**	264
RPM	200	**H S I**	2.70
BIT NUMBER		**3**	
Size (in)		8.5	
Make		Hyc	
Type		DSX519M	
IADC Code		PDC	
Serial Number		211741	
T.F.A.(")		0.552	
Depth In (m)		1255	
Depth Out (m)		IN	
Total Meters		1110	
Hours		60.5	
ROP		18.3	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	454
AV - DP (fpm)	214
AV - DC (fpm)	371
SPP (psi)	1600
SPP (calculated)	1640

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 240 @ 40		SCR: 320 @ 60	

SURVEYS

5.0° at 2288m	
6.0° at 2374m	

BHA # 3

TOOL	**LENGTH**
8.5 Bit	0.23
NBS	1.26
Mud Motor	9.58
Stab	1.14
NMDC	8.33
Stab	1.14
15x6.5" dc's	112.15
Drilling Jars	9.74
3x6.25 dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	285.53
BHA WEIGHT(kLb)	51.5
STRING WT (kLb)	64.6
HOOK LOAD (kLb)	191.0
WT BELOW JARS (kLb)	31.9
DRAG UP (kLb)	192.0
DRAG DOWN (kLb)	191.0
TORQUE ON (Amps/Rel.)	5000
TORQUE OFF (Amps/Rel.)	3400

BULK PRODUCTS

FUEL ON SITE	23800 Litres
DAILY USAGE	6050 Litres
CUM. FUEL USED	50468 Litres
BARITES ON SITE	-125 kg
BARITES USED	125 kg
MUD MIXED	3626 Bbls
MUD LOSSES	2699 Bbls

MUD PROPERTIES

Time	2150
Depth (m)	2349
Temp (° C)	54
Mud Type	KCl/PHPA/POL
Density (ppg)	9.30
ECD (ppg)	9.65
Viscosity (sec)	46
PV / YP (cp/lb)	12 / 17
Gells (s/m)	5 / 14
API Filt. (cc)	7.6
Cake (/32")	1
Solids (% Vol)	4.7
Sand (% Vol)	0.25
MBT	16.3
pH (strip)	9.6
Chlorides (mg/l)	27700
KCL (%)	5.9
PHPA (ppb)	1.05
ALC - 50 (K)	
Circ. Vol. (Bbl)	828

CHEMICAL USAGE

AMC Pac- LV	5
Biocide G	1
Caustic Soda	1
PHPA	2
Soda Ash	4
Sodium Sulphite	4
Xanthan Gum	2
KCL	42

OPERATION

	HRS	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition	0.5	9.5
Coring		
D/O Cement		9.5
Drilling	17.5	125.5
FIT / LOT		1.0
Handle BHA		1.0
Repairs	1.0	7.5
Rig Service	0.5	2.5
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line		1.5
Survey	1.0	9.0
Test BOP		8.5
Tight hole / Fishing		
Tripping		20.0
Wait on Cement		5.0
Wash / Ream	0.5	1.5
Well Control		1.0
Well Test		
Wiper Trip	3.0	11.0
Wireline		
Other		12.0
TOTALS	24.0	281.0

DAILY MUD COSTS	$2,992.75
CUM. MUD COSTS	**$61,494.62**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Drill f/ 2125m to 2154m
2:00	2:30	Sweep Hi Vis, Circ.
2:30	3:00	Run survey @ 2142m, 3-1/4 deg., N25E, AZI = 32
3:00	6:00	Flow check, wiper trip to 9-5/8" shoe, hole slick, RIH
6:00	6:30	Light wash & ream last stand to bottom, f/ 2127m to 2154m
6:30	9:00	Drill ahead 8-1/2" hole f/ 2154m to 2212m
9:00	9:30	TDS failed, circ. whilst fault find, found load nut ajustment bolt hole elongated, which allows the load to come in contact with the quill.
9:30	10:00	Contact TDS main office to varify problem, instructed to drill ahead
10:00	15:30	Drill f/ 2212m to 2299m
15:30	16:00	Rig service
16:00	16:30	Survey @ 2288m, 5 deg, N10E, AZI = 17
16:30	0:00	Drill f/ 2299m to 2365m

MAXIMUM GAS:	89% @ 2154m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	0%	**TRIP GAS:**	0%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

20/09/2006

REPORT # 13

WELL	**Glenaire 01**	**24:00 DEPTH**	**2485m**	**24 HR PROG**	**120m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: POOH, lay out stab's, RIH, RR Bit #3 & Pendalum Assembly w/ stab. @ 27met. (90 ft), P.U. 57jnt's x 4-1/2" d.p., cont., RIH, wash last stand to bottom, drill f/ 2386 to 2526m, surv. @ 2517, = 5-1/2 deg., drill f/2526 to 2548m

REMARKS / FORWARD PLAN: Remaining 7" x 26lb/ft csg. arrived (note; deviation is coming back, last surv. = 5-1/2 deg.) >/> Drill ahead, taking surveys as required to 3002m confirmed, csg. strapped

PERSONNEL ON SITE: 38

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**	13.5ppg	**MAASP**	**872psi**	**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 53

SAFETY: 1. 2. Toolbox talk daily

WEATHER AM: overcast
PM: rain

BIT INFORMATION

WOB(kLb)	3-5	**JET V(fps)**	264
RPM	200	**H S I**	2.73
BIT NUMBER		**4**	**3**
Size (in)		8.5	8.5
Make		Hyc	Hyc
Type		DSX519M	DSX519M
IADC Code		PDC	PDC
Serial Number		211741	211741
T.F.A.(")		0.552	0.552
Depth In (m)		2386	1255
Depth Out (m)		IN	2386
Total Meters		99	1131
Hours		8	64.5
ROP		12.4	17.5
Condition Out		0 0 NO A X i RR BHA	

FLOW DATA

CIRC. RATE (gpm)	454
AV - DP (fpm)	214
AV - DC (fpm)	371
SPP (psi)	1630
SPP (calculated)	1670

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 240 @ 40		SCR: 320 @ 60	

SURVEYS

5.5° at 2517m

BHA # 4

TOOL	**LENGTH**
8.5	0.23
Mud Motor	8.58
NMDC	9.33
1x6-1/4" dc	9.42
Stab.	1.14
11x6-1/4" dc's	102.73
Jars	9.74
3x6-1/4" dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	283.13
BHA WEIGHT(kLb)	50.5
STRING WT (kLb)	64.5
HOOK LOAD (kLb)	195.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	196.0
DRAG DOWN (kLb)	190.0
TORQUE ON (Amps/Rel.)	6150
TORQUE OFF (Amps/Rel.)	2150

BULK PRODUCTS

FUEL ON SITE	46650 Litres
DAILY USAGE	4203 Litres
CUM. FUEL USED	54671 Litres
BARITES ON SITE	-125 kg
BARITES USED	125 kg
MUD MIXED	3692 Bbls
MUD LOSSES	2769 Bbls

MUD PROPERTIES

Time	2140
Depth (m)	2463
Temp (° C)	51
Mud Type	KCl/PHPA/POL
Density (ppg)	9.40
ECD (ppg)	9.76
Viscosity (sec)	49
PV / YP (cp/lb)	12 / 18
Gells (s/m)	5 / 15
API Filt. (cc)	7.6
Cake (/32")	1
Solids (% Vol)	5.5
Sand (% Vol)	0.2
MBT	17.5
pH (strip)	9
Chlorides (mg/l)	28300
KCL (%)	5.8
PHPA (ppb)	1.06
ALC - 50 (K)	
Circ. Vol. (Bbl)	931

CHEMICAL USAGE

AMC Pac- LV	6
Barite	64
Biocide G	1
Caustic Soda	1
PHPA	2
Soda Ash	2
Sodium Sulphite	2
Xanthan Gum	1
KCL	42

OPERATION

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition	0.5	10.0
Coring		
D/O Cement		9.5
Drilling	12.0	137.5
FIT / LOT		1.0
Handle BHA	1.5	2.5
Repairs		7.5
Rig Service		2.5
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line	0.5	2.0
Survey	0.5	9.5
Test BOP		8.5
Tight hole / Fishing		
Tripping	8.5	28.5
Wait on Cement		5.0
Wash / Ream	0.5	2.0
Well Control		1.0
Well Test		
Wiper Trip		11.0
Wireline		
Other		12.0
TOTALS	24.0	305.0

DAILY MUD COSTS	$3,215.08
CUM. MUD COSTS	**$64,709.70**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Drill 8-1/2" hole f/ 2365m to 2386m
2:00	2:30	Circ. & survey @ 2374m, 6 deg., N2E, AZI = 9
2:30	3:00	Circ. hole clean
3:00	9:30	Flow check, slug pipe, POOH, hole slick, break off bit, = in gage & good condition, clear rig floor
9:30	11:00	Make up 8-1/2", RR #3, PDC bit, & Pendalum Assembly BHA (stab. @ 27.56met.) (90 ft) RIH, BHA to HWDP
11:00	13:00	Pick up # 57 single jnts of 4-1/2" d.p., RIH to 850m
13:00	14:00	Cont. RIH stands d.p. to 9-5/8" shoe, "Hold Kick Drill", .break circ.
14:00	14:30	Slip drilling line
14:30	15:30	Cont. RIH stands of d.p. (hole good)
15:30	16:00	Break circ., light wash & ream last stand to bottom @ 2386m (5met. of fill)
16:00	0:00	Drill 8-1/2" hole f/ 2386m to 2485m

MAXIMUM GAS:	70% @ 2427m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	85%

SUPERVISOR:	B.Marriott/B.Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

21/09/2006

REPORT # 14

WELL	**Glenaire 01**	**24:00 DEPTH**	**2753m**	**24 HR PROG**	**268m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Drill f/2548m to 2802m.. Surveys @2633m 6-1/2Deg N35W(uncorrected), @2719m 6-1/4Deg N45W(uncorrected)

REMARKS / FORWARD PLAN: Drilling ahead to 3002m TD…last survey show deviation holding at current parameters, next survey due at 2806m+ -

PERSONNEL ON SITE: 38

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**	13.5ppg	**MAASP**	**872psi**	**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 54

SAFETY
1. Pretour Lifting and carrying
2. Pretour Revised procedures for tongs

WEATHER AM fine
PM fine

BIT INFORMATION

WOB(kLb)	5-7	**JET V(fps)**	264
RPM	227	**H S I**	2.73
BIT NUMBER		**4**	
Size (in)		8.5	
Make		Hyc	
Type		DSX519M	
IADC Code		PDC	
Serial Number		211741	
T.F.A.(")		0.552	
Depth In (m)		2386	
Depth Out (m)		IN	
Total Meters		367	
Hours		28.5	
ROP		12.9	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	454
AV - DP (fpm)	214
AV - DC (fpm)	371
SPP (psi)	1750
SPP (calculated)	2090

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 220 @ 40		SCR: 320 @ 60	

SURVEYS

6.5° at 2633m	
6.25° at 2719m	

BHA # 4

TOOL	**LENGTH**
8.5	0.23
Mud Motor	8.58
NMDC	9.33
1x6-1/4" dc	9.42
Stab.	1.14
11x6-1/4" dc's	102.73
Jars	9.74
3x6-1/4" dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	283.13
BHA WEIGHT(kLb)	50.5
STRING WT (kLb)	181.4
HOOK LOAD (kLb)	212.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	213.0
DRAG DOWN (kLb)	203.0
TORQUE ON (Amps/Rel.)	6929
TORQUE OFF (Amps/Rel.)	6400

BULK PRODUCTS

FUEL ON SITE	40900 Litres
DAILY USAGE	5750 Litres
CUM. FUEL USED	60421 Litres
BARITES ON SITE	-125 kg
BARITES USED	125 kg
MUD MIXED	3892 Bbls
MUD LOSSES	2855 Bbls

MUD PROPERTIES

Time	2215
Depth (m)	2734
Temp (° C)	56
Mud Type	KCl/PHPA/POL
Density (ppg)	9.40
ECD (ppg)	9.70
Viscosity (sec)	48
PV / YP (cp/lb)	13 / 16
Gells (s/m)	4 / 16
API Filt. (cc)	7.8
Cake (/32")	1
Solids (% Vol)	5.4
Sand (% Vol)	0.25
MBT	20
pH (strip)	9.5
Chlorides (mg/l)	28600
KCL (%)	5.9
PHPA (ppb)	1.07
ALC - 50 (K)	
Circ. Vol. (Bbl)	975

CHEMICAL USAGE

AMC Pac- LV	5
Biocide G	1
Caustic Soda	1
PHPA	4
Soda Ash	4
Sodium Sulphite	2
KCL	84
Citric Acid	6

OPERATION

	HRS	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition		10.0
Coring		
D/O Cement		9.5
Drilling	20.5	158.0
FIT / LOT		1.0
Handle BHA		2.5
Repairs		7.5
Rig Service	0.5	3.0
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line		2.0
Survey	2.0	11.5
Test BOP		8.5
Tight hole / Fishing		
Tripping		28.5
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		11.0
Wireline		
Other	1.0	13.0
TOTALS	24.0	329.0

DAILY MUD COSTS	$3,680.85
CUM. MUD COSTS	**$68,390.55**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Drill 8-1/2" hole f/ 2485m to 2497m
0:30	1:30	Circ. & survey @ 2488m, miss run
1:30	3:00	Drill f/ 2497m to 2526m
3:00	4:00	Circ. & survey @ 2517m, 5-1/2 deg., N10W, AZI = 357
4:00	10:30	Control Drill 8.5" f/2526m to 2613m.
10:30	11:00	Service rig
11:00	13:00	Control drill 8.5" f/2613m to 2642m
13:00	13:30	Circulate and run directional survey at 2633m Dev 6.5Deg N35W uncorrected
13:30	21:00	Control drill f/2642m to 2728m with 5k WOB and 227RPM
21:00	21:30	Circ & survey @ 2719m Dev 6.25Deg N45W
21:30	0:00	Control drill f/2728m to 2753m with 5 k WOB and 227RPM

MAXIMUM GAS:	109% @ 2737m	**BACKGROUND GAS:**	20-35%	**CONNECTION GAS:**	0%	**TRIP GAS:**	0%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

22/09/2006

REPORT # 15

WELL	**Glenaire 01**	**24:00 DEPTH**	**2934m**	**24 HR PROG**	**181m**	**CUM. COSTS**	**$71,221**
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	$2,830.08

OP's TO 06:00 Drill ahead f/2753m to 2934m, surveys @2806m 5.25 deg N53W, @2893m 4.75deg N50W, lubricate rig, fix RPM sensor

REMARKS / FORWARD PLAN: Hole straightening up, ROP down to 5m/hr at times due to formation

PERSONNEL ON SITE: **38**

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**	13.5ppg	**MAASP**	**883psi**	**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 55

SAFETY
1. Pretour: review verbal shift handover
2. Pretour: review crown saver and emergency brake

WEATHER AM rain
PM showers clearing

BIT INFORMATION

WOB(kLb)	5-6	**JET V(fps)**	264
RPM	210	**H S I**	2.72
BIT NUMBER		**4**	
Size (in)		8.5	
Make		Hyc	
Type		DSX519M	
IADC Code		PDC	
Serial Number		211741	
T.F.A.(")		0.552	
Depth In (m)		2386	
Depth Out (m)		IN	
Total Meters		548	
Hours		49.5	
ROP		11.1	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	454
AV - DP (fpm)	214
AV - DC (fpm)	371
SPP (psi)	1800
SPP (calculated)	2150

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 260 @ 40		SCR: 360 @ 60	

SURVEYS

5.25° at 2806m	
4.75° at 2893m	

BHA # 4

TOOL	**LENGTH**
8.5	0.23
Mud Motor	8.58
NMDC	9.33
1x6-1/4" dc	9.42
Stab.	1.14
11x6-1/4" dc's	102.73
Jars	9.74
3x6-1/4" dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	283.13
BHA WEIGHT(kLb)	50.6
STRING WT (kLb)	191.1
HOOK LOAD (kLb)	220.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	225.0
DRAG DOWN (kLb)	212.0
TORQUE ON (Amps/Rel.)	7000
TORQUE OFF (Amps/Rel.)	5500

BULK PRODUCTS

FUEL ON SITE	36400 Litres
DAILY USAGE	4500 Litres
CUM. FUEL USED	64921 Litres
BARITES ON SITE	175 kg
BARITES USED	125 kg
MUD MIXED	3992 Bbls
MUD LOSSES	2973 Bbls

MUD PROPERTIES

Time	2200
Depth (m)	2917
Temp (° C)	60
Mud Type	KCl/PHPA/POL
Density (ppg)	9.35
ECD (ppg)	9.73
Viscosity (sec)	49
PV / YP (cp/lb)	13 / 19
Gells (s/m)	5 / 16
API Filt. (cc)	8.8
Cake (/32")	1
Solids (% Vol)	5.2
Sand (% Vol)	0.15
MBT	15
pH (strip)	10
Chlorides (mg/l)	29500
KCL (%)	5.8
PHPA (ppb)	1.07
ALC - 50 (K)	
Circ. Vol. (Bbl)	971

CHEMICAL USAGE

AMC Pac- LV	11
PHPA	2
Soda Ash	2
KCL	42

OPERATION

	HRS	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition		10.0
Coring		
D/O Cement		9.5
Drilling	21.0	179.0
FIT / LOT		1.0
Handle BHA		2.5
Repairs	0.5	8.0
Rig Service	0.5	3.5
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line		2.0
Survey	2.0	13.5
Test BOP		8.5
Tight hole / Fishing		
Tripping		28.5
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		11.0
Wireline		
Other		13.0
TOTALS	24.0	353.0

DAILY MUD COSTS	$2,830.08
CUM. MUD COSTS	**$71,220.63**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	7:30	Control drill 8.5" f/2753m to 2815m
7:30	8:30	Circ & survey @ 2806m Dev 5.25Deg N53W
8:30	12:00	Control drill 8.5" f/2815m to 2844m
12:00	12:30	Lubricate rig
12:30	20:00	Control drill 8.5" f/2844m to 2902m
20:00	21:00	Circ & survey @ 2893m Dev 4.75Deg N50W
21:00	23:00	Control drill 8.5" f/2902m to 2931m
23:00	23:30	Tesco Attempt to fix RPM sensor
23:30	0:00	Control drill 8.5" f/2931m to 2934m

MAXIMUM GAS: 86% @ 2893m	**BACKGROUND GAS:** 20-35%	**CONNECTION GAS:** %	**TRIP GAS:** %
SUPERVISOR: Barry Beetson	**GEOLOGIST:** Dave Horner	**MUD CO:** RMN Drilling Fluids	

DAILY DRILLING REPORT

23/09/2006

REPORT # 16

WELL	**Glenaire 01**	**24:00 DEPTH**	**3002m**	**24 HR PROG**	**68m**	**CUM. COSTS**	**$71,909**
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	$688.20

OP's TO 06:00	Logging with Schlumberger,run 1#,Hals/Sonic/GR		
REMARKS / FORWARD PLAN:	Caliper failed. Tool POH and caliper isolated and head checked.Logging ahead. No backup for caliper on site	**PERSONNEL ON SITE:**	**38**

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**	13.5ppg	**MAASP**	**872psi**	**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 56	**SAFETY**	1. Pretour Inspection pretrip	**WEATHER AM**	overcast
		2. Pretour Tripping out	**PM**	showers

BIT INFORMATION			
WOB(kLb)	5-6	**JET V(fps)**	264
RPM	210	**H S I**	2.73
BIT NUMBER		**4**	
Size (in)		8.5	
Make		Hyc	
Type		DSX519M	
IADC Code		PDC	
Serial Number		211741	
T.F.A.(")		0.552	
Depth In (m)		2386	
Depth Out (m)		3002	
Total Meters		616	
Hours		58.5	
ROP		10.5	
Condition Out		1 1 NO A X I RR TD	
FLOW DATA			
CIRC. RATE (gpm)		454	
AV - DP (fpm)		214	
AV - DC (fpm)		371	
SPP (psi)		1820	
SPP (calculated)		2130	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 260 @ 40		SCR: 370 @ 60	
SURVEYS			
6.25° at 2989m			

BHA # 4	
TOOL	**LENGTH**
8.5	0.23
Mud Motor	8.58
NMDC	9.33
1x6-1/4" dc	9.42
Stab.	1.14
11x6-1/4" dc's	102.73
Jars	9.74
3x6-1/4" dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	283.13
BHA WEIGHT(kLb)	50.5
STRING WT (kLb)	194.5
HOOK LOAD (kLb)	222.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	227.0
DRAG DOWN (kLb)	214.0
TORQUE ON (Amps/Rel.)	5375
TORQUE OFF (Amps/Rel.)	4700
BULK PRODUCTS	
FUEL ON SITE	29600 Litres
DAILY USAGE	6800 Litres
CUM. FUEL USED	71721 Litres
BARITES ON SITE	175 kg
BARITES USED	125 kg
MUD MIXED	3992 Bbls
MUD LOSSES	3029 Bbls

MUD PROPERTIES	
Time	1500
Depth (m)	3002
Temp (° C)	59
Mud Type	KCl/PHPA/POL
Density (ppg)	9.40
ECD (ppg)	9.74
Viscosity (sec)	49
PV / YP (cp/lb)	12 / 19
Gells (s/m)	4 / 16
API Filt. (cc)	8.5
Cake (/32")	1
Solids (% Vol)	5.3
Sand (% Vol)	0.1
MBT	15
pH (strip)	10
Chlorides (mg/l)	29400
KCL (%)	5.8
PHPA (ppb)	0.98
ALC - 50 (K)	
Circ. Vol. (Bbl)	987
CHEMICAL USAGE	
Barite	72
Caustic Soda	2

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition	2.0	12.0
Coring		
D/O Cement		9.5
Drilling	9.0	188.0
FIT / LOT		1.0
Handle BHA	0.5	3.0
Repairs		8.0
Rig Service		3.5
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line		2.0
Survey	1.0	14.5
Test BOP		8.5
Tight hole / Fishing		
Tripping	6.5	35.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip	3.0	14.0
Wireline	2.0	2.0
Other		13.0
TOTALS	24.0	377.0
DAILY MUD COSTS		$688.20
CUM. MUD COSTS		**$71,908.83**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	9:00	Control drill 8.5" f/2934m to 3002m with 5-6K WOB and 220 RPM
9:00	10:00	Circulate hole clean
10:00	11:00	Directional survey at 2989mtrs- 6.25DegN45W
11:00	12:30	Flow check, pump pill, POH to 2324m. Flow checking at 5 and 10 std out
12:30	14:00	RIH to 2989m., precautionary wash to bottom, 4 mtrs fill
14:00	15:00	Circulate hole clean
15:00	21:30	Flow check, pump pill, POH to Log Flow checking at 5 and 10 std shoe and BHA. Layout stab and monel
21:30	22:00	Service mud motor and layout
22:00	23:00	Clear rig floor, hold PJSM, Rig up Schlumberger
23:00	0:00	Makeup Run 1# HALS/SONIC/GR, tools in hole at 23:10hrs

MAXIMUM GAS:	217% @ 2989m	**BACKGROUND GAS:**	30-40%	**CONNECTION GAS:**	%	**TRIP GAS:**	70%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

24/09/2006

REPORT # 17

WELL	**Glenaire 01**	**24:00 DEPTH**	**3002m**	**24 HR PROG**		**CUM. COSTS**	**$72,357**
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	$447.75

OP's TO 06:00 Continue laying out drill string, with 1 hr repair to forklift transmission..Laying out BHA from 04:00hrs Recovering wear bushing at 06:00 hours

REMARKS / FORWARD PLAN: Bottoms up trip gas was approximately 2700 units. Some indications of sloughing but stabilized to 10 units gas very quickly. Possible slug of air from drill pipe. String filled 4 times on way in.

PERSONNEL ON SITE: 38

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**	13.5ppg	**MAASP**	**872psi**	**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 57

SAFETY
1. Pretour Logging rigup and tear out
2. Weekly Safety meeting held, Pretour Stab valve on survey

WEATHER AM showers
PM Showers

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	264
RPM	80	**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		454	
AV - DP (fpm)		214	
AV - DC (fpm)		371	
SPP (psi)		1800	
SPP (calculated)		2240	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	108	**RATE**	108
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 260 @ 40		SCR: 360 @ 60	
SURVEYS			
7° at 2997m			
5.75° at 2987m			

BHA # 5	
TOOL	**LENGTH**
	0.23
Bit sub	0.79
NMDC	9.33
12x6-1/4" dc	112.15
Jars	9.74
3x6-1/4" dc's	27.31
12xHWDP	114.65
BHA LENGTH (m)	274.20
BHA WEIGHT(kLb)	48.2
STRING WT (kLb)	192.7
HOOK LOAD (kLb)	218.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	224.0
DRAG DOWN (kLb)	212.0
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	24100 Litres
DAILY USAGE	5500 Litres
CUM. FUEL USED	77221 Litres
BARITES ON SITE	175 kg
BARITES USED	125 kg
MUD MIXED	3992 Bbls
MUD LOSSES	3074 Bbls

MUD PROPERTIES	
Time	1510
Depth (m)	3002
Temp (° C)	46
Mud Type	KCl/PHPA/POL
Density (ppg)	9.40
ECD (ppg)	9.91
Viscosity (sec)	61
PV / YP (cp/lb)	15 / 28
Gells (s/m)	7 / 13
API Filt. (cc)	8.8
Cake (/32")	1
Solids (% Vol)	5.3
Sand (% Vol)	0.1
MBT	15
pH (strip)	9.8
Chlorides (mg/l)	29500
KCL (%)	5.8
PHPA (ppb)	0.98
ALC - 50 (K)	
Circ. Vol. (Bbl)	956
CHEMICAL USAGE	
Barite	32
Biocide G	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition	1.5	13.5
Coring		
D/O Cement		9.5
Drilling		188.0
FIT / LOT		1.0
Handle BHA		3.0
Repairs		8.0
Rig Service		3.5
Rig up Csg./ Cmt.		7.0
Run Casing		19.0
Safety		1.0
Slip/Cut Drill Line	1.0	3.0
Survey	2.0	16.5
Test BOP		8.5
Tight hole / Fishing		
Tripping	13.0	48.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline	6.5	8.5
Other		13.0
TOTALS	24.0	401.0
DAILY MUD COSTS		$447.75
CUM. MUD COSTS		**$72,356.58**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	6:30	Continue log run 1#...Caliper failed at start of main run section…POH, tools at surface at 02:30am…no spare...log without caliper, rig down
6:30	11:00	Makeup cleanout BHA and RIH to shoe…fill pipe at BHA and shoe
11:00	12:00	Slip & cut drilling line
12:00	14:30	Continue to RIH to 2989m., precautionary wash to bottom., hole good, no fill
14:30	16:00	Circulate and condition mud and hole
16:00	17:00	Wireline check survey at 2997m. 7Deg N40W.
17:00	18:00	POH one single and wireline check survey at 2987m 5 3/4Deg N30W
18:00	0:00	Layout drill string to 975m…Flow check at 5std, 10std and shoe

MAXIMUM GAS:	% @ 3002m	**BACKGROUND GAS:**	30-40%	**CONNECTION GAS:**	%	**TRIP GAS:**	2700%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

25/09/2006

REPORT # 18

WELL	**Glenaire 01**	**24:00 DEPTH**	**3002m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Circulate and reciprocate casing to clean hole and lower pack-off pressure. Cement as per program and set slip and seal assembly. CIP 0500

REMARKS / FORWARD PLAN: RIH 254jnts 7" 26/29 L80 casing to 2998m. Hole showing signs of caving in with asssociated shale cuttings to surface, high gas spikes (upto 4354 units) while circulating. Circulate until pressures and pack off stabilised.

PERSONNEL ON SITE: 34

LAST CASING	9 5/8"	**SET AT**	1252m	**LOT**	13.5ppg	**MAASP**	**850psi**	**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 58

SAFETY
1. Pretour: drill collars laying down
2. pretour: run Casing

WEATHER AM fine
PM fine cold

BIT INFORMATION

WOB(kLb)		**JET V(fps)**	195
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA	
CIRC. RATE (gpm)	336
AV - DP (fpm)	114
AV - DC (fpm)	114
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	80	**RATE**	80
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	250.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	300.0
DRAG DOWN (kLb)	180.0
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	21800 Litres
DAILY USAGE	2300 Litres
CUM. FUEL USED	79521 Litres
BARITES ON SITE	175 kg
BARITES USED	125 kg
MUD MIXED	4022 Bbls
MUD LOSSES	3090 Bbls

MUD PROPERTIES	
Time	2345
Depth (m)	3002
Temp (° C)	51
Mud Type	KCl/PHPA/POL
Density (ppg)	9.50
ECD (ppg)	
Viscosity (sec)	51
PV / YP (cp/lb)	13 / 19
Gells (s/m)	4 / 16
API Filt. (cc)	9
Cake (/32")	1
Solids (% Vol)	6
Sand (% Vol)	TRC
MBT	15
pH (strip)	9.8
Chlorides (mg/l)	29600
KCL (%)	5.8
PHPA (ppb)	0.94
ALC - 50 (K)	
Circ. Vol. (Bbl)	841

CHEMICAL USAGE	
Biocide G	4
Sodium Sulphite	1
KCL	6

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		22.5
Cementing		5.5
Circ & Condition	1.5	15.0
Coring		
D/O Cement		9.5
Drilling		188.0
FIT / LOT		1.0
Handle BHA		3.0
Repairs	1.0	9.0
Rig Service		3.5
Rig up Csg./ Cmt.	3.0	10.0
Run Casing	13.5	32.5
Safety		1.0
Slip/Cut Drill Line		3.0
Survey		16.5
Test BOP		8.5
Tight hole / Fishing		
Tripping	5.0	53.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		13.0
TOTALS	24.0	425.0

DAILY MUD COSTS	$888.40
CUM. MUD COSTS	**$73,244.98**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Continue to layout pipe to 764m.
1:00	2:00	Repair forklift transmission selector, unable to clear pipe racks
2:00	4:00	Continue to layout pipe, flow check
4:00	6:00	Layout BHA
6:00	7:30	Change rams and pressure test bonnet seal
7:30	9:00	Rig up to run 7" casing, clear floor.
9:00	12:00	Safety Meeting, M/U float and shoe and run 7" casing to 440m
12:00	22:30	Run casing to 2988m
22:30	0:00	Wash casing from 2988m to 2998m. Circulate clean hole

MAXIMUM GAS:	% @ 3002m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

26/09/2006

REPORT # 19

WELL	**Glenaire 01**	**24:00 DEPTH**	**3002m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Rack back 35 stands 3-1/2" drillpipe. Strap remaining 3-1/2" drillpipe. Pressure test BOP. Prepare BHA

REMARKS / FORWARD PLAN: Forward Plan: RIH 6" BHA, pressure test casing to 3000psi, Drill out shoe, FIT

PERSONNEL ON SITE: 35

LAST CASING	7 "	**SET AT**	2998m	**LOT**		**MAASP**		**BOP TEST**	16/09/2006	**TEST DUE**	30/09

AFD's: 59

SAFETY
1. Cement Casing
2. Pretour: BOP nipple up

WEATHER AM fine
PM fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	49200 Litres
DAILY USAGE	560 Litres
CUM. FUEL USED	80081 Litres
BARITES ON SITE	150 kg
BARITES USED	150 kg
MUD MIXED	4022 Bbls
MUD LOSSES	3249 Bbls

MUD PROPERTIES	
Time	1515
Depth (m)	3002
Temp (° C)	38
Mud Type	KCl/PHPA/POL
Density (ppg)	9.45
ECD (ppg)	
Viscosity (sec)	47
PV / YP (cp/lb)	11 / 14
Gells (s/m)	3 / 18
API Filt. (cc)	7.5
Cake (/32")	1
Solids (% Vol)	5.6
Sand (% Vol)	TRC
MBT	15
pH (strip)	10.6
Chlorides (mg/l)	29500
KCL (%)	5.9
PHPA (ppb)	0.94
ALC - 50 (K)	
Circ. Vol. (Bbl)	856
CHEMICAL USAGE	
AMC Pac- LV	6
Defoamer	1
Soda Ash	4
Sodium Sulphite	2

OPERATION	**HRS**	**CUM**
BOP's / Wellhead	13.0	35.5
Cementing	2.0	7.5
Circ & Condition	2.0	17.0
Coring		
D/O Cement		9.5
Drilling		188.0
FIT / LOT		1.0
Handle BHA		3.0
Repairs		9.0
Rig Service		3.5
Rig up Csg./ Cmt.	1.0	11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		3.0
Survey		16.5
Test BOP	2.5	11.0
Tight hole / Fishing		
Tripping	3.5	56.5
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		13.0
TOTALS	24.0	449.0
DAILY MUD COSTS		$1,246.08
CUM. MUD COSTS		**$74,491.06**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Circulate and work casing, pump pre-flush
2:00	2:30	Head up Halliburton and surface lines
2:30	3:00	Pressure Test Surface lines to 4000psi
3:00	5:00	Mix and pump cement. Lead 157bbls @12.5ppg. Tail 22.3bbls @15.8ppg. Displace with rig pumps. Plug NOT bumped
5:00	6:00	Install slip and seal assembly.
6:00	12:00	N/D BOP rough cut and dress casing stub. Install C section
12:00	14:00	P-test C section to 5000psi, Install DSA and change rams to 3.5"
14:00	18:00	N/U BOP, install bell nipple and flowline
18:00	20:30	Pressure test choke manifold and lines. Prepare rig floor
20:30	0:00	RIH 3-1/2" drill pipe, open end to 812m(makeup in stands for top drive drilling)

MAXIMUM GAS:	% @ 3002m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

27/09/2006

REPORT # 20

WELL	**Glenaire 01**	**24:00 DEPTH**	**3002m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Continue RIH DP from 1775m to 2952m. Break circulation and work pipe..Slip drill line..

REMARKS / FORWARD PLAN: Had Trouble testing pipe rams, had to change out. Fire and ESD drill conducted. 1 Hr downtime due to Tesco.

PERSONNEL ON SITE: 35

LAST CASING	7 "	**SET AT**	2998m	**LOT**		**MAASP**		**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 60

SAFETY
1. Pretour: collars and drill pipe picking up
2. Pretour: DP picking up, chaintongs, lifting

WEATHER AM fine
PM fine-cold

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**6**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code			
Serial Number		114752	
T.F.A.(")			
Depth In (m)		3002	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 6	
TOOL	**LENGTH**
6	0.20
Mud Motor	7.25
Float sub	0.40
NMDC	9.29
String stab	1.42
14 x 4.75" DC's	132.53
Drilling jars	9.34
3 x DC's	28.30
9 x 3.5" HWDP	85.47
BHA LENGTH (m)	274.20
BHA WEIGHT(kLb)	29.7
STRING WT (kLb)	142.1
HOOK LOAD (kLb)	100.0
WT BELOW JARS (kLb)	20.1
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	46650 Litres
DAILY USAGE	2550 Litres
CUM. FUEL USED	82631 Litres
BARITES ON SITE	150 kg
BARITES USED	150 kg
MUD MIXED	4022 Bbls
MUD LOSSES	3249 Bbls

MUD PROPERTIES	
Time	1700
Depth (m)	3002
Temp (° C)	--
Mud Type	KCl/PHPA/POL
Density (ppg)	9.45
ECD (ppg)	
Viscosity (sec)	46
PV / YP (cp/lb)	11 / 13
Gells (s/m)	3 / 16
API Filt. (cc)	7.4
Cake (/32")	1
Solids (% Vol)	5.6
Sand (% Vol)	TRC
MBT	15
pH (strip)	10.5
Chlorides (mg/l)	29500
KCL (%)	5.9
PHPA (ppb)	0.94
ALC - 50 (K)	
Circ. Vol. (Bbl)	732
CHEMICAL USAGE	

OPERATION	**HRS**	**CUM**
BOP's / Wellhead	0.5	36.0
Cementing		7.5
Circ & Condition		17.0
Coring		
D/O Cement		9.5
Drilling		188.0
FIT / LOT		1.0
Handle BHA	5.5	8.5
Repairs	1.0	10.0
Rig Service		3.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		3.0
Survey	0.5	17.0
Test BOP	6.0	17.0
Tight hole / Fishing		
Tripping	10.0	66.5
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	0.5	13.5
TOTALS	24.0	473.0
DAILY MUD COSTS		
CUM. MUD COSTS		**$74,491.06**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Continue to RIH DP F/- 812m T/- 1032m
1:00	2:00	POOH and rack back stands (35 stands)
2:00	3:00	Install HCR line. Load racks with BHA and strap and caliper.
3:00	9:00	Pressure test BOP 200/4800psi (annular 200/2000psi)
9:00	9:30	Install Wear Bushing
9:30	12:00	M/U BHA and RIH t/-196m
12:00	12:30	Test Survey Equipment (fail, won't drift DCs)
12:30	13:30	POOH F/- 196m T/- 17m to relocate stab
13:30	14:30	RIH F/-17m T/- 188m. Test survey Equipment
14:30	16:30	PJSM, Pick up from catwalk and RIH F/- 188m T/- 532m
16:30	17:00	Tesco downtime: Centre top drive torque track
17:00	17:30	Fire Drill and test ESDs
17:30	18:00	Tesco downtime: change dies
18:00	0:00	RIH F/- 532m T/- 1775m

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

28/09/2006

REPORT # 21

WELL	**Glenaire 01**	**24:00 DEPTH**	**3103m**	**24 HR PROG**	**101m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Continue to Drill 6" hole F/-3103 T/3156 mm. Survey @ 3108m 8.5deg N25W (uncorrected);Hi gas reading associated with pit gain. Flow check.Not flowing. Circulate increase Mud wt to 9.8ppg. Drill ahead to 3165m

REMARKS / FORWARD PLAN: BOP drill (29secs for Well control) Hydraulic choke tested by pumping fluid through. Tesco downtime yesterday only 1/2 hr, not 1hr.

PERSONNEL ON SITE: 35

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**2226psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 61 **SAFETY** 1. Pretour: Pressure Testing; 2. Pretour: mudlosses, rotation equipment.

WEATHER AM Fine
PM Fine

BIT INFORMATION

WOB(kLb)	4-5	**JET V(fps)**	111
RPM	130	**H S I**	0.56
BIT NUMBER		**6**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")		0.752	
Depth In (m)			
Depth Out (m)		IN	
Total Meters		3103	
Hours		9.5	
ROP		326.6	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	261
AV - DP (fpm)	269
AV - DC (fpm)	476
SPP (psi)	2900
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	62	**RATE**	62
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 640 @ 40		SCR: 1040 @ 60	

SURVEYS

6.75° at 3020m	

BHA # 6

TOOL	**LENGTH**
6	0.20
Mud Motor	7.25
Float sub	0.40
NMDC	9.29
String stab	1.42
14 x 4.75" DC's	132.53
Drilling jars	9.34
3 x DC's	28.30
9 x 3.5" HWDP	85.47
BHA LENGTH (m)	274.20
BHA WEIGHT(kLb)	29.7
STRING WT (kLb)	146.2
HOOK LOAD (kLb)	180.0
WT BELOW JARS (kLb)	20.1
DRAG UP (kLb)	185.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	2800
TORQUE OFF (Amps/Rel.)	1800

BULK PRODUCTS

FUEL ON SITE	42800 Litres
DAILY USAGE	3850 Litres
CUM. FUEL USED	86481 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4052 Bbls
MUD LOSSES	3270 Bbls

MUD PROPERTIES

Time	2215
Depth (m)	3082
Temp (° C)	54
Mud Type	KCl/PHPA/POL
Density (ppg)	9.45
ECD (ppg)	
Viscosity (sec)	52
PV / YP (cp/lb)	12 / 19
Gells (s/m)	4 / 16
API Filt. (cc)	8.7
Cake (/32")	1
Solids (% Vol)	6
Sand (% Vol)	TRC
MBT	15
pH (strip)	11
Chlorides (mg/l)	28000
KCL (%)	5.8
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	770

CHEMICAL USAGE

AMC Pac- LV	12
Defoamer	1
Soda Ash	12
Citric Acid	4

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		7.5
Circ & Condition	1.5	18.5
Coring		
D/O Cement	2.5	12.0
Drilling	9.5	197.5
FIT / LOT	3.0	4.0
Handle BHA		8.5
Repairs		10.0
Rig Service		3.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line	0.5	3.5
Survey	0.5	17.5
Test BOP	1.0	18.0
Tight hole / Fishing		
Tripping	5.5	72.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		13.5
TOTALS	24.0	497.0

DAILY MUD COSTS	$2,578.76
CUM. MUD COSTS	**$77,069.82**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	5:30	RIH F/-1775m T/-2953
5:30	6:00	Slip 66ft drill line
6:00	7:00	Wash down F/- 2953m to TOC@ 2963m. Drill cement to 2981m
7:00	7:30	Circ and clean hole
7:30	9:30	Pressure test casing to 3500psi for 10mins
9:30	10:00	Perform Koomey Function test
10:00	10:30	BOP drill and circ through choke. Well controlled in 29secs.
10:30	12:00	Drill cement F/- 2981m T/- 3002m. Tag float @ 2985m, Tag shoe at 2998m
12:00	12:30	Drill new 6" hole F/-3002m T/-3005m
12:30	13:30	Circ bottoms up
13:30	14:30	LOT with 9.5ppg mud L/off @ 2275psi EMW 13.8ppg. (Program was for FIT to 3300psi but leak off prior)
14:30	17:00	Drill 6" hole F/- 3005m T/- 3038m
17:00	17:30	Circulate then run directional survey @ 3020m 6.75deg N35W uncorrected
17:30	0:00	Drill F/- 3038m T/-3103m

MAXIMUM GAS:	245% @ 3006m	**BACKGROUND GAS:**	60-80%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

29/09/2006

REPORT # 22

WELL	**Glenaire 01**	**24:00 DEPTH**	**3230m**	**24 HR PROG**	**127m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Prepare for directional drilling to do correctional run to target up.. RIH to 3230m Circ bottoms up. POOH to pick up Dowell Schlumberger directional tools.

REMARKS / FORWARD PLAN: Last survey at 3194m 9.25deg. Waiting on Directional Drilling Engineer. Due onsite 11am.

PERSONNEL ON SITE: 33

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**2047psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 62 **SAFETY** 1. Pretour: Man Riding; 2. Pretour: slips and elevators

WEATHER AM Fine
PM Fine

BIT INFORMATION

WOB(kLb)	2-5	**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**6**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")		0.752	
Depth In (m)			
Depth Out (m)		IN	
Total Meters		3230	
Hours		16.5	
ROP		195.8	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	
AV - DP (fpm)	
AV - DC (fpm)	
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

8.5° at 3108m	
9.25° at 3194m	

BHA # 6

TOOL	**LENGTH**
6	0.20
Mud Motor	7.25
Float sub	0.40
NMDC	9.29
String stab	1.42
14 x 4.75" DC's	132.53
Drilling jars	9.34
3 x DC's	28.30
9 x 3.5" HWDP	85.47
BHA LENGTH (m)	274.20
BHA WEIGHT(kLb)	29.5
STRING WT (kLb)	150.5
HOOK LOAD (kLb)	185.0
WT BELOW JARS (kLb)	20.0
DRAG UP (kLb)	190.0
DRAG DOWN (kLb)	180.0
TORQUE ON (Amps/Rel.)	3100
TORQUE OFF (Amps/Rel.)	2750

BULK PRODUCTS

FUEL ON SITE	37450 Litres
DAILY USAGE	5350 Litres
CUM. FUEL USED	91831 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4102 Bbls
MUD LOSSES	3299 Bbls

MUD PROPERTIES

Time	2215
Depth (m)	3230
Temp (° C)	36
Mud Type	KCl/PHPA/POL
Density (ppg)	9.80
ECD (ppg)	
Viscosity (sec)	62
PV / YP (cp/lb)	21 / 15
Gells (s/m)	2 / 7
API Filt. (cc)	6.5
Cake (/32")	1
Solids (% Vol)	6.7
Sand (% Vol)	TRC
MBT	15
pH (strip)	10
Chlorides (mg/l)	62000
KCL (%)	12
PHPA (ppb)	0.85
ALC - 50 (K)	
Circ. Vol. (Bbl)	780

CHEMICAL USAGE

AMC Pac- LV	15
Biocide G	-1
KCL	414
Citric Acid	2

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		7.5
Circ & Condition	2.0	20.5
Coring		
D/O Cement		12.0
Drilling	7.0	204.5
FIT / LOT		4.0
Handle BHA		8.5
Repairs		10.0
Rig Service	0.5	4.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		3.5
Survey	2.0	19.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	0.5	72.5
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	12.0	25.5
TOTALS	24.0	521.0

DAILY MUD COSTS	$10,206.15
CUM. MUD COSTS	**$87,275.97**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:30	Drill f/-3103m to 3125m
1:30	2:30	Circulate and survey at 3108m 8.5DegN25W
2:30	4:00	Drill F/-3125m to 3156m. Hi gas 4500units.
4:00	5:00	Flow check after gascut mud and 6 bbl gain to surface. Well not flowing… Wait up to 9.8ppg with KCL.
5:00	8:00	Drilled F/-3156m T/-3211m
8:00	9:00	Circulate and survey at 3194m 9.25DegN15W
9:00	10:00	Drill F/-3211m T/- 3230m
10:00	11:00	Suspend Drilling and wait for directional Drilling Equipment. Circulate Bottoms up.
11:00	11:30	POOH F/-3230m T/- 2981m (shoe)
11:30	12:00	Lubricate rig
12:00	0:00	Wait on Directional Drilling Equipment to steer to target

MAXIMUM GAS:	4250% @ 3154m	**BACKGROUND GAS:**	60-80%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

30/09/2006

REPORT # 23

WELL	Glenaire 01	**24:00 DEPTH**	3230m	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Directional Drill F/-3230m T/-3247m (Slide and steer as required)Taking wireline surveys surveys to align bit.

REMARKS / FORWARD PLAN: Directional Drilling target 2-3 deg/100m

PERSONNEL ON SITE: 34

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1944psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 63

SAFETY
1. Pretour: tripping out of hole
2. Pretour: BHA m/u, chain tong, pipe tong

WEATHER AM Fine
PM Fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	108
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA	
CIRC. RATE (gpm)	252
AV - DP (fpm)	260
AV - DC (fpm)	460
SPP (psi)	2700
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	60	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 700 @ 40		SCR: 950 @ 60	

SURVEYS	
9.75° at 3198m	

BHA # 7	
TOOL	**LENGTH**
Hyc SL12TKPR	0.20
Mud Motor	6.79
Float sub	0.52
Orienting sub	0.66
NMDC	9.29
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	244.28
BHA WEIGHT(kLb)	32.0
STRING WT (kLb)	153.8
HOOK LOAD (kLb)	185.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	34600 Litres
DAILY USAGE	2850 Litres
CUM. FUEL USED	94681 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4102 Bbls
MUD LOSSES	3324 Bbls

MUD PROPERTIES	
Time	2300
Depth (m)	3230
Temp (° C)	39
Mud Type	KCl/PHPA/POL
Density (ppg)	10.00
ECD (ppg)	
Viscosity (sec)	44
PV / YP (cp/lb)	12 / 12
Gells (s/m)	3 / 14
API Filt. (cc)	6.8
Cake (/32")	1
Solids (% Vol)	8.1
Sand (% Vol)	0.1
MBT	16.3
pH (strip)	10
Chlorides (mg/l)	85000
KCL (%)	13.3
PHPA (ppb)	0.85
ALC - 50 (K)	
Circ. Vol. (Bbl)	782

CHEMICAL USAGE	
Barite	40
NaCl	200
Sodium Sulphite	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		7.5
Circ & Condition	2.0	22.5
Coring		
D/O Cement		12.0
Drilling		204.5
FIT / LOT		4.0
Handle BHA	2.5	11.0
Repairs		10.0
Rig Service	0.5	4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line	1.0	4.5
Survey	1.0	20.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	13.5	86.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	3.5	29.0
TOTALS	24.0	545.0

DAILY MUD COSTS	$2,091.30
CUM. MUD COSTS	**$89,367.27**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:30	Wait on Directional Drilling Equipment to steer to target
2:30	3:00	RIH F/-2981m T/-3230m (TD)
3:00	4:00	Circulate hole clean
4:00	10:00	Flow check, pump slug, POH to make up Dowell Schlumberger directional equipment.
10:00	10:30	Service mud motor and layout
10:30	11:00	Lubricate rig
11:00	12:00	Wait on Directional Drilling Equipment to steer to target
12:00	13:30	Prepare directional drilling equipment
13:30	14:30	M/U 6" milled tooth bit and direction assy. Set @ 1.5 deg. Function test mud motor.
14:30	19:30	RIH from surface to 2980m
19:30	20:30	Slip and cut drilling line
20:30	21:30	Flow check and RIH F/- 2980m T/- 3209m
21:30	22:30	Circ bottoms up.(3500units gas)
22:30	23:00	Work torque from string. Tight hole F/- 3209m T/-3200m Max overpull 300k
23:00	0:00	Tool faceOrientation Survey @ 3198m 10.3 deg N20W uncorrected

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	3790%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

1/10/2006

REPORT # 24

WELL	**Glenaire 01**	**24:00 DEPTH**	**3290m**	**24 HR PROG**	**60m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Directionally, drill sliding and rotating attempting to steer to prognosed target. Drilling ahead at 3304m.

REMARKS / FORWARD PLAN: Unable to hold course due to steering blind and torque flexability of 3.5" drill string.

PERSONNEL ON SITE: 33

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1944psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 64

SAFETY
1. PTSM: While driller is relieved
2. Weekly safety meeting

WEATHER AM Fine
PM Fine Cold

BIT INFORMATION

WOB(kLb)	10-15	**JET V(fps)**	91
RPM		**H S I**	0.40
BIT NUMBER		**7**	
Size (in)		6.0	
Make		Hyc	
Type		SL12TKPR	
IADC Code		127	
Serial Number		NR2619	
T.F.A.(")		0.920	
Depth In (m)		3230	
Depth Out (m)		IN	
Total Meters		60	
Hours		18.5	
ROP		3.2	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	261
AV - DP (fpm)	269
AV - DC (fpm)	476
SPP (psi)	2570
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	62	**RATE**	62
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 550 @ 40		SCR: 980 @ 60	

SURVEYS

11.75° at 3236m
14.5° at 3256m
18.5° at 3276m

BHA # 7

TOOL	**LENGTH**
Hyc SL12TKPR	0.20
Mud Motor	6.79
Float sub	0.52
Orienting sub	0.66
NMDC	9.29
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	244.28
BHA WEIGHT(kLb)	32.0
STRING WT (kLb)	156.2
HOOK LOAD (kLb)	185.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	190.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	6700
TORQUE OFF (Amps/Rel.)	5700

BULK PRODUCTS

FUEL ON SITE	30000 Litres
DAILY USAGE	4600 Litres
CUM. FUEL USED	99281 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4122 Bbls
MUD LOSSES	3387 Bbls

MUD PROPERTIES

Time	2150
Depth (m)	3287
Temp (° C)	57
Mud Type	KCl/PHPA/POL
Density (ppg)	10.00
ECD (ppg)	
Viscosity (sec)	44
PV / YP (cp/lb)	13 / 12
Gells (s/m)	2 / 8
API Filt. (cc)	6.5
Cake (/32")	1
Solids (% Vol)	8.3
Sand (% Vol)	0.1
MBT	16.3
pH (strip)	10.2
Chlorides (mg/l)	90500
KCL (%)	12.9
PHPA (ppb)	1.1
ALC - 50 (K)	
Circ. Vol. (Bbl)	741

CHEMICAL USAGE

AMC Pac- LV	6
Biocide G	2
Caustic Soda	1
NaCl	10
PHPA	4
Soda Ash	2
Sodium Sulphite	4
KCL	57

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		7.5
Circ & Condition	0.5	23.0
Coring		
D/O Cement		12.0
Drilling	18.5	223.0
FIT / LOT		4.0
Handle BHA		11.0
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		4.5
Survey	5.0	25.5
Test BOP		18.0
Tight hole / Fishing		
Tripping		86.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		29.0
TOTALS	24.0	569.0

DAILY MUD COSTS	$3,191.53
CUM. MUD COSTS	**$92,558.80**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Wash from 3200m to 3230m
0:30	3:30	Directionally drill from 3230m to 3242m. Sliding and rotating as required
3:30	4:30	Circulate and survey at 3227m. 9.7Deg N9.3W corrected
4:30	7:30	Directionally drill from 3242m to 3253m. Sliding and rotating as required
7:30	8:30	Circulate and survey at 3236m 11.75Deg N8.3W corrected
8:30	12:30	Directionally drill from 3253m to 3267m. Sliding and rotating
12:30	13:30	Circulate and survey at 3256m. 14.5Deg N2.7E corrected
13:30	14:30	Reset toolface and run oeientaion survey, 15.5Deg N4.7E
14:30	22:00	Directionally drill from 3267m to 3287m Sliding and rotating
22:00	23:00	Circulate and survey at 3276m 18.5Deg N7.3W corrected
23:00	0:00	Directionally drill from 3287m to 3290m Sliding

MAXIMUM GAS:	300% @ 3239m	**BACKGROUND GAS:**	40-60%	**CONNECTION GAS:**	665%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

2/10/2006

REPORT # 25

WELL	**Glenaire 01**	**24:00 DEPTH**	**3306m**	**24 HR PROG**	**16m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00	Circulated out,POH with drill string and cement stinger, make up bit and RIH		
REMARKS / FORWARD PLAN:	Cement samples hard at surface at 06:00hrs, will circulate at shoe prior to tagging up.	**PERSONNEL ON SITE:**	**35**

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1842psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 65	**SAFETY**	1. Pretour: Rig safety 2. Pretour Tripping responsibilites,Cement stinger & precement	**WEATHER AM** Fine **PM** Fine/Cold

BIT INFORMATION			
WOB(kLb)	10-18	**JET V(fps)**	91
RPM		**H S I**	0.41
BIT NUMBER		**7**	
Size (in)		6.0	
Make		Hyc	
Type		SL12TKPR	
IADC Code		127	
Serial Number		NR2619	
T.F.A.(")		0.920	
Depth In (m)		3230	
Depth Out (m)		3306	
Total Meters		76	
Hours		23.5	
ROP		3.2	
Condition Out		3 5 WT A E 1 BT BHA	
FLOW DATA			
CIRC. RATE (gpm)		261	
AV - DP (fpm)		269	
AV - DC (fpm)		476	
SPP (psi)		2600	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	62	**RATE**	62
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 550 @ 40		SCR: 980 @ 60	
SURVEYS			
20.5° at 3294m			

BHA # 7	
TOOL	**LENGTH**
Hyc SL12TKPR	0.20
Mud Motor	6.79
Float sub	0.52
Orienting sub	0.66
NMDC	9.29
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	244.28
BHA WEIGHT(kLb)	31.9
STRING WT (kLb)	175.0
HOOK LOAD (kLb)	185.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	190.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	5100
TORQUE OFF (Amps/Rel.)	3900
BULK PRODUCTS	
FUEL ON SITE	25000 Litres
DAILY USAGE	5000 Litres
CUM. FUEL USED	104281 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4122 Bbls
MUD LOSSES	3444 Bbls

MUD PROPERTIES	
Time	0815
Depth (m)	3306
Temp (° C)	57
Mud Type	KCl/PHPA/POL
Density (ppg)	10.20
ECD (ppg)	
Viscosity (sec)	45
PV / YP (cp/lb)	13 / 10
Gells (s/m)	2 / 7
API Filt. (cc)	6.5
Cake (/32")	1
Solids (% Vol)	8.7
Sand (% Vol)	0.1
MBT	15
pH (strip)	10
Chlorides (mg/l)	125000
KCL (%)	15
PHPA (ppb)	1.1
ALC - 50 (K)	
Circ. Vol. (Bbl)	573
CHEMICAL USAGE	
Barite	44
Biocide G	1
NaCl	222
Sodium Sulphite	2
Xanthan Gum	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing	1.0	8.5
Circ & Condition	4.5	27.5
Coring		
D/O Cement		12.0
Drilling	5.0	228.0
FIT / LOT		4.0
Handle BHA	0.5	11.5
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		4.5
Survey	1.0	26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	12.0	98.0
Wait on Cement		5.0
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		29.0
TOTALS	24.0	593.0
DAILY MUD COSTS		$2,892.30
CUM. MUD COSTS		**$95,451.10**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:30	Directionally drill from 3290m to 3295m Sliding and rotating as required
2:30	4:00	Flow check after hi gas(4337 units, no pit gain), circulate out gas and raise mud weight to 10.2ppg
4:00	6:30	Directionally drill from 3295m to 3306m, Sliding and rotating as required
6:30	7:30	Circulate and survey at 3294m 20.5 Deg N12W
7:30	9:00	Circulate hole clean
9:00	14:00	Flow check, pump pill, POH with flow checks at 5 std shoe and BHA. Break and layout Float sub, orient sub, NMDC
14:00	14:30	Service mud motor and layout
14:30	15:30	Rigup and run 15 jts cement stinger and difffuser
15:30	20:30	Continue to RIH with 3.5" drill pipe to 3224m
20:30	21:30	Circulate BU and spot 100 mtrs+- HI Vis pill
21:30	22:00	POH to 3128m to run cement kickoff plug
22:00	23:00	Cement plug # 1 from 3128m to 3028m, 76 sx HTB mixed at 16.5ppg with additives as per cementing program
23:00	23:30	POH slowly to 2985m
23:30	0:00	Circulate out

MAXIMUM GAS:	4337% @ 3294m	**BACKGROUND GAS:**	50-70%	**CONNECTION GAS:**	%	**TRIP GAS:**	4006%

SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

3/10/2006

REPORT # 26

WELL	**Glenaire 01**	**24:00 DEPTH**	**3006m**	**24 HR PROG**	**-300m**	**CUM. COSTS**	**$99,070**
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	$3,618.93

OP's TO 06:00 Slow circulation at shoe while waiting on cement plug to harden and MWD equipment and personnel.

REMARKS / FORWARD PLAN: Plan to RIH and polish plug at 06:00 hrs. then POH to coincide with tool arrival

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1842psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 66

SAFETY
1. Pretour: Slip & cut
2. Pretour: Slips & Elevators

WEATHER AM Fine
PM Fine/Cool

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	86
RPM		**H S I**	0.35
BIT NUMBER		**7**	
Size (in)		6.0	
Make		Hyc	
Type		SL12TKPR	
IADC Code		127	
Serial Number		NR2619	
T.F.A.(")		0.920	
Depth In (m)		3230	
Depth Out (m)		3306	
Total Meters		76	
Hours		23.5	
ROP		3.2	
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		248	
AV - DP (fpm)		256	
AV - DC (fpm)		453	
SPP (psi)		1950	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	59	**RATE**	59
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 8	
TOOL	**LENGTH**
Hyc SL12TKPR	0.20
Bit Sub	0.81
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	227.83
BHA WEIGHT(kLb)	29.5
STRING WT (kLb)	159.3
HOOK LOAD (kLb)	175.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	20300 Litres
DAILY USAGE	4700 Litres
CUM. FUEL USED	108981 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4222 Bbls
MUD LOSSES	3482 Bbls

MUD PROPERTIES	
Time	1945
Depth (m)	3306
Temp (° C)	52
Mud Type	KCL/PHPA/POL
Density (ppg)	10.20
ECD (ppg)	
Viscosity (sec)	45
PV / YP (cp/lb)	16 / 12
Gells (s/m)	3 / 9
API Filt. (cc)	6.2
Cake (/32")	1
Solids (% Vol)	9
Sand (% Vol)	9.1
MBT	14
pH (strip)	11
Chlorides (mg/l)	119000
KCL (%)	14.5
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	703
CHEMICAL USAGE	
AMC Pac- LV	6
Barite	40
NaCl	192
PHPA	2
Soda Ash	4
Xanthan Gum	1

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	1.5	29.0
Coring		
D/O Cement		12.0
Drilling		228.0
FIT / LOT		4.0
Handle BHA		11.5
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		4.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	9.0	107.0
Wait on Cement	13.5	18.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		29.0
TOTALS	24.0	617.0
DAILY MUD COSTS		$3,618.93
CUM. MUD COSTS		**$99,070.03**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Continue to circulate BU
0:30	4:30	POH to surface, layout cement stinger pipe clean
4:30	9:30	Makeup bit, bitsub and RIH to shoe
9:30	10:30	Circulate BU and check trip gas
10:30	14:00	Wait on kick off plug to harden, slip drill line, change out counter balance piston on top drive
14:00	15:00	RIH tag top of plug at 3037m, pull back to shoe
15:00	0:00	Wait on cement and arrival of MWD equipment and personnel

MAXIMUM GAS:	% @ 3306m	**BACKGROUND GAS:**	2%	**CONNECTION GAS:**	%	**TRIP GAS:**	97%

SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

4/10/2006

REPORT # 27

WELL	**Glenaire 01**	**24:00 DEPTH**	**3041m**	**24 HR PROG**	**-265m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	$254.20

OP's TO 06:00 Continued to RIH, tagged up at 3041m., unable to get surface readout from MWD., signal very weak. POH and monitor signal to see if it is depth related

REMARKS / FORWARD PLAN: Exhausted avenues of making tool work, consulted with Scientific Base. POH monitoring signal strenghth to see if signal is depth related.

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1842psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 67 **SAFETY** 1. Pretour:Hand tools; 2. Pretour: Pickup and makeup mud motor

WEATHER AM Fine
PM Overcast/showers

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**9**	
Size (in)		6.0	
Make		Security	
Type		XS4SDB036	
IADC Code		217S	
Serial Number		10826038	
T.F.A.(")		0.920	
Depth In (m)			
Depth Out (m)		IN	
Total Meters		3041	
Hours		37	
ROP		82.2	
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 9	
TOOL	**LENGTH**
Bit	0.20
Mud Motor	6.79
Float sub	0.52
NMDC	9.29
MWD NM Sub	0.61
MWD NM Sub	1.52
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	245.75
BHA WEIGHT(kLb)	32.0
STRING WT (kLb)	162.7
HOOK LOAD (kLb)	175.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	44200 Litres
DAILY USAGE	4905 Litres
CUM. FUEL USED	113886 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4222 Bbls
MUD LOSSES	3482 Bbls

MUD PROPERTIES	
Time	0930
Depth (m)	3041
Temp (° C)	49
Mud Type	KCL/PHPA/POL
Density (ppg)	10.20
ECD (ppg)	
Viscosity (sec)	50
PV / YP (cp/lb)	16 / 11
Gells (s/m)	3 / 10
API Filt. (cc)	6.4
Cake (/32")	1
Solids (% Vol)	8.7
Sand (% Vol)	0.1
MBT	14
pH (strip)	11
Chlorides (mg/l)	118000
KCL (%)	14.5
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	702
CHEMICAL USAGE	
Barite	31

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	1.0	30.0
Coring		
D/O Cement	0.5	12.5
Drilling		228.0
FIT / LOT		4.0
Handle BHA	1.0	12.5
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		4.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	11.0	118.0
Wait on Cement	6.0	24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	4.5	33.5
TOTALS	24.0	641.0
DAILY MUD COSTS		$254.20
CUM. MUD COSTS		**$99,324.23**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	6:00	Wait on cement and arrival of MWD equipment and personnel
6:00	6:30	RIH to 3037m
6:30	7:00	Polish cement plug from 3037m to 3041m
7:00	8:00	Circulate BU, flow check and pump slug
8:00	14:00	POH to make up directional assembly
14:00	15:00	Makeup bit, mud motor, float sub and monel, Rig up MWD equipment(arrived on location at 13:30 hrs
15:00	17:00	Rig up MWD and run cables
17:00	19:30	Hold PJSM and makeup MWD,Test mud motor and MWD at 47.3m
19:30	0:00	Continue to RIH filling string every 30std.to 2982m

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

5/10/2006

REPORT # 28

WELL	**Glenaire 01**	**24:00 DEPTH**	**3041m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: POH, downloaded MWD data and reset RIH with tool in sleep mode. Wait at 3040m. for startup. No signal to surface. POH after troubleshooting. Regained signal. Boosted watts from 8 to 50. RIH..Lost signal at 2000 mtrs.Try different earthspots. POH.

REMARKS / FORWARD PLAN: Lookahead POH, when signal regained check wattage, continue to POH. Run safety string. Wait on mud pulse MWD from Anadrill, Release ScientificDrillling operators

PERSONNEL ON SITE: 36

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1842psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 68

SAFETY: 1. Pretour: Tripping; 2. Pretour: Tripping

WEATHER AM: Fine

PM: Fine/cold

BIT INFORMATION

WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**9**	
Size (in)		6.0	
Make		Sec	
Type		XS4	
IADC Code		217s	
Serial Number		10826038	
T.F.A.(")		0.920	
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	
AV - DP (fpm)	
AV - DC (fpm)	
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

BHA # 9

TOOL	**LENGTH**
Bit	0.20
Mud Motor	6.79
Float sub	0.52
NMDC	9.29
MWD NM Sub	0.61
MWD NM Sub	1.52
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	245.75
BHA WEIGHT(kLb)	32.0
STRING WT (kLb)	162.7
HOOK LOAD (kLb)	175.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS

FUEL ON SITE	45150 Litres
DAILY USAGE	-950 Litres
CUM. FUEL USED	112936 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4222 Bbls
MUD LOSSES	3482 Bbls

MUD PROPERTIES

Time	2330
Depth (m)	3041
Temp (° C)	45
Mud Type	KCL/PHPA/POL
Density (ppg)	10.20
ECD (ppg)	
Viscosity (sec)	45
PV / YP (cp/lb)	13 / 9
Gells (s/m)	2 / 11
API Filt. (cc)	6.8
Cake (/32")	1
Solids (% Vol)	8.7
Sand (% Vol)	0.1
MBT	14
pH (strip)	11
Chlorides (mg/l)	114000
KCL (%)	14.5
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	712

CHEMICAL USAGE

Barite	30

OPERATION

	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.0
Coring		
D/O Cement		12.5
Drilling		228.0
FIT / LOT		4.0
Handle BHA		12.5
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		4.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	12.0	130.0
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	12.0	45.5
TOTALS	24.0	665.0

DAILY MUD COSTS	$246.00
CUM. MUD COSTS	**$99,570.23**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	RIH from 2982m to 3041m
0:30	6:00	Unreadable signal from MWD tool, troubleshoot and check surface equipment, Consult with Houston Scientific Base, unable to gain signal
6:00	12:00	Flow check, Pump slug and POH to check for signal-depth relationship.Signal at 850m.
12:00	14:30	Download MWD data at surface, change out gap sub, Reset MWD
14:30	20:00	RIH to 3041m breaking circulation every 30std.
20:00	22:00	Circulate and rotate slowly 1mtr off bottom while waiting on MWD to start transmitting signal. No signal
22:00	0:00	Troubleshoot to regain signal. No success

MAXIMUM GAS:	14.5% @ 3041m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

6/10/2006

REPORT # 29

WELL	**Glenaire 01**	**24:00 DEPTH**	**3041m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Wait on MWD, Tools arrived at 03:30hrs..Rigging up and preparing for drilling

REMARKS / FORWARD PLAN: Both Schlumberger MWD on location last night, Scientific to Melbourne yesterday

PERSONNEL ON SITE: 38

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1842psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 69

SAFETY
1. Pretour: Working at heights
2. Pretour: Working at heights, inertia reel installation

WEATHER AM Fine
PM Fine/cold

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 8	
TOOL	**LENGTH**
Hyc SL12TKPR	0.20
Bit Sub	0.81
11xDC's	103.68
Jars	9.34
3xDCs	28.30
9 x 3.5" HWDP	85.50
BHA LENGTH (m)	227.83
BHA WEIGHT(kLb)	29.5
STRING WT (kLb)	161.0
HOOK LOAD (kLb)	45.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	42300 Litres
DAILY USAGE	2850 Litres
CUM. FUEL USED	115786 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4222 Bbls
MUD LOSSES	3482 Bbls

MUD PROPERTIES	
Time	2000
Depth (m)	3041
Temp (° C)	
Mud Type	KCL/PHPA/POL
Density (ppg)	10.20
ECD (ppg)	
Viscosity (sec)	45
PV / YP (cp/lb)	13 / 10
Gells (s/m)	2 / 10
API Filt. (cc)	7
Cake (/32")	1
Solids (% Vol)	8.7
Sand (% Vol)	0.1
MBT	14
pH (strip)	11
Chlorides (mg/l)	113000
KCL (%)	14.5
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	712
CHEMICAL USAGE	
Barite	40

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.0
Coring		
D/O Cement		12.5
Drilling		228.0
FIT / LOT		4.0
Handle BHA	0.5	13.0
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line	1.0	5.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	9.0	139.0
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	13.5	59.0
TOTALS	24.0	689.0
DAILY MUD COSTS		$328.00
CUM. MUD COSTS		**$99,898.23**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Troubleshoot to regain signal. No success
1:00	3:30	Flow check, pump slug and POH to check for signal-depth relationship.Signal at 1335m Boost watts from 8 to 50, good signal RIH
3:30	5:30	RIH to 2000m +- monitoring signal. Signal lost at 2000mtrs.Change earthing position on stack
5:30	6:00	Check out surface earthing areas, all OK.
6:00	9:30	POH to surface
9:30	10:00	Layout directional equipment
10:00	11:00	Make up 6" conventional BHA and run safety string to 256m
11:00	12:00	Slip and cut drilling line
12:00	0:00	Wait on MWD from Anadrill(Schlumberger)

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

7/10/2006

REPORT # 30

WELL	**Glenaire 01**	**24:00 DEPTH**	**3041m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Kicking off plug steering 180deg az. Time drilling to 3050m. No formation returns.

REMARKS / FORWARD PLAN: Reset tool to 140 deg. Continue to time drill.

PERSONNEL ON SITE: 38

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1842psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 70 **SAFETY** 1. Pretour:Stored energy..valves; 2. Tretour: Tesco lockout procedure

WEATHER AM Fine
PM Fine/cold

BIT INFORMATION

WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**9**	
Size (in)		6.0	
Make		Sec	
Type		XN4	
IADC Code		217S	
Serial Number		10826038	
T.F.A.(")		0.920	
Depth In (m)		3041	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	
AV - DP (fpm)	
AV - DC (fpm)	
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

BHA # 10

TOOL	**LENGTH**
Bit Sec XN4	0.20
Mud Motor	6.79
Float sub	0.52
NMDC	9.29
MWD NM pony collar	1.94
MWDcollar	10.30
11xDC's	103.68
Jars	9.34
3xDCs	28.30
BHA LENGTH (m)	170.36
BHA WEIGHT(kLb)	22.2
STRING WT (kLb)	156.4
HOOK LOAD (kLb)	175.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS

FUEL ON SITE	40450 Litres
DAILY USAGE	1850 Litres
CUM. FUEL USED	117636 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4222 Bbls
MUD LOSSES	3492 Bbls

MUD PROPERTIES

Time	1530
Depth (m)	3041
Temp (° C)	
Mud Type	KCL/PHPA/POL
Density (ppg)	10.20
ECD (ppg)	
Viscosity (sec)	47
PV / YP (cp/lb)	13 / 9
Gells (s/m)	2 / 8
API Filt. (cc)	7.2
Cake (/32")	1
Solids (% Vol)	8.5
Sand (% Vol)	0.1
MBT	14
pH (strip)	11
Chlorides (mg/l)	113000
KCL (%)	14.5
PHPA (ppb)	0.9
ALC - 50 (K)	
Circ. Vol. (Bbl)	702

CHEMICAL USAGE

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.0
Coring		
D/O Cement		12.5
Drilling		228.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		5.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	6.0	145.0
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	18.0	77.0
TOTALS	24.0	713.0

DAILY MUD COSTS	
CUM. MUD COSTS	**$99,898.23**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	POH with safety string and layout bitsub and bit
1:00	3:30	Wait on MWD tools, on location at 03:30, pick up bit, mud motor, monel and stand back
3:30	13:30	Rig up MWD tools, RIH, install MWD tools in string
13:30	19:00	Tools not returning signal to surface, trouble shoot, change out surface junction box, tools working
19:00	0:00	RIH to 3041m breaking circulation every 30std.,

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %

SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

8/10/2006

REPORT # 31

WELL	**Glenaire 01ST1**	**24:00 DEPTH**	**3072m**	**24 HR PROG**	**31m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Directionally drilling from 3072m to 3083m Rotating and sliding as required

REMARKS / FORWARD PLAN: Survey tool 15m+- behind bit.. Should start seeing new surveys shortly.

PERSONNEL ON SITE: 38

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1919psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 71

SAFETY
1. Pretour: Mixing chemicals
2. Weekly safety meetings, Pretour

WEATHER AM Fine
PM Fine/cold

BIT INFORMATION

WOB(kLb)	1-13	**JET V(fps)**	108
RPM		**H S I**	0.54
BIT NUMBER		**9**	
Size (in)		6.0	
Make		Security	
Type		XN4	
IADC Code		217S	
Serial Number		10826038	
T.F.A.(")			
Depth In (m)		3041	
Depth Out (m)			
Total Meters		31	
Hours		23.5	
ROP		1.3	
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	252
AV - DP (fpm)	260
AV - DC (fpm)	460
SPP (psi)	2850
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	60	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 580 @ 40		SCR: 1010 @ 60	

SURVEYS

BHA # 10

TOOL	**LENGTH**
Bit Sec XN4	0.20
Mud Motor	6.79
Float sub	0.52
NMDC	9.29
MWD NM pony collar	1.94
MWDcollar	10.30
11xDC's	103.68
Jars	9.34
3xDCs	28.30
BHA LENGTH (m)	170.36
BHA WEIGHT(kLb)	22.3
STRING WT (kLb)	158.3
HOOK LOAD (kLb)	178.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	185.0
DRAG DOWN (kLb)	173.0
TORQUE ON (Amps/Rel.)	1500
TORQUE OFF (Amps/Rel.)	1000

BULK PRODUCTS

FUEL ON SITE	35600 Litres
DAILY USAGE	4850 Litres
CUM. FUEL USED	122486 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4312 Bbls
MUD LOSSES	3528 Bbls

MUD PROPERTIES

Time	2340
Depth (m)	3072
Temp (° C)	52
Mud Type	KCL/PHPA/POL
Density (ppg)	10.05
ECD (ppg)	
Viscosity (sec)	38
PV / YP (cp/lb)	11 / 6
Gells (s/m)	1 / 1
API Filt. (cc)	7
Cake (/32")	1
Solids (% Vol)	7.6
Sand (% Vol)	Tr
MBT	13
pH (strip)	11
Chlorides (mg/l)	110500
KCL (%)	14
PHPA (ppb)	0.87
ALC - 50 (K)	
Circ. Vol. (Bbl)	756

CHEMICAL USAGE

AMC Pac- LV	6
Biocide G	1
PHPA	1
Sodium Sulphite	1
Xanthan Gum	1

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.0
Coring		
D/O Cement		12.5
Drilling	23.0	251.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		10.0
Rig Service		4.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		5.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping		145.0
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	1.0	78.0
TOTALS	24.0	737.0

DAILY MUD COSTS	$1,656.68
CUM. MUD COSTS	**$101,554.91**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	6:00	Orient tool face time drill to kickoff, Drill to 3048m. No formation in samples. 100% cement..WOB 2k
6:00	6:30	Slide from 3048m to 3058m. No formation in samples 100% cement returns
6:30	7:30	Work pipe to undercut hole and form a ledge from 3048m to 3058m
7:30	12:00	Time drill at 1m/hr to 3062m..100% cement no formation in samples(sliding)
12:00	15:00	Time drill at 0.5m/hr to 3064m..(sliding) 30% formation
15:00	16:30	Time drill at 1m/hr to 3066m.. 90% formation in samples(sliding)
16:30	19:30	Drill with 12/13k on bit sliding..to 3068m
19:30	20:30	Drill with 60 RPM on rotary to 3069m
20:30	21:00	Check trip to shoe, hole OK above
21:00	22:00	Drill ahead to 3070m., rotating
22:00	0:00	Drill ahead to 3072m., rotating

MAXIMUM GAS:	14.2% @ 3059m	**BACKGROUND GAS:**	0.8 to 2.5%	**CONNECTION GAS:**	%	**TRIP GAS:**	15%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

9/10/2006

REPORT # 32

WELL	**Glenaire 01**	**24:00 DEPTH**	**3119m**	**24 HR PROG**	**47m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 POH for bit change, change bit and RIH. After last HWDP driller left top drive extended and sat on Monkey board..damaging board and Topdrive

REMARKS / FORWARD PLAN: After rig back operational,will line out well with this bit, then run PDC in conjunction with steering gear

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1919psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 72 **SAFETY** 1. Pretour:Isolation lockout system; 2. Pretour: Drilling actual

WEATHER AM Fine
PM Fine/cold

BIT INFORMATION

WOB(kLb)	12-15	**JET V(fps)**	108
RPM		**H S I**	0.54
BIT NUMBER		**9**	**10**
Size (in)		6.0	6.0
Make		Security	Smith
Type		XN4	XR+
IADC Code		217S	117
Serial Number		10826038	PB9348
T.F.A.(")		0.752	
Depth In (m)		3041	3119
Depth Out (m)		3119	
Total Meters		78	
Hours		43.5	
ROP		1.8	
Condition Out		3 5 WT A F 1 FC BC	

FLOW DATA

CIRC. RATE (gpm)	252
AV - DP (fpm)	260
AV - DC (fpm)	460
SPP (psi)	2930
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	60	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

BHA # 10

TOOL	**LENGTH**
Bit Sec XN4	0.20
Mud Motor	6.79
Float sub	0.52
NMDC	9.29
MWD NM pony collar	1.94
MWDcollar	10.30
11xDC's	103.68
Jars	9.34
3xDCs	28.30
BHA LENGTH (m)	170.36
BHA WEIGHT(kLb)	22.3
STRING WT (kLb)	160.5
HOOK LOAD (kLb)	180.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	185.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	5300
TORQUE OFF (Amps/Rel.)	4090

BULK PRODUCTS

FUEL ON SITE	30250 Litres
DAILY USAGE	5350 Litres
CUM. FUEL USED	127836 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4312 Bbls
MUD LOSSES	3548 Bbls

MUD PROPERTIES

Time	2130
Depth (m)	3119
Temp (° C)	53
Mud Type	KCL/PHPA/POL
Density (ppg)	10.05
ECD (ppg)	
Viscosity (sec)	38
PV / YP (cp/lb)	11 / 7
Gells (s/m)	1 / 1
API Filt. (cc)	7
Cake (/32")	1
Solids (% Vol)	7.7
Sand (% Vol)	Tr
MBT	13
pH (strip)	10.5
Chlorides (mg/l)	107000
KCL (%)	14
PHPA (ppb)	0.87
ALC - 50 (K)	
Circ. Vol. (Bbl)	774

CHEMICAL USAGE

Ausben	1
Barite	47
Sodium Sulphite	3

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	0.5	30.5
Coring		
D/O Cement		12.5
Drilling	20.5	271.5
FIT / LOT		4.0
Handle BHA		13.0
Repairs		10.0
Rig Service	0.5	5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		5.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	2.5	147.5
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		78.0
TOTALS	24.0	761.0

DAILY MUD COSTS	$496.55
CUM. MUD COSTS	**$102,051.46**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	3:00	Drill ahead to 3076m., sliding
3:00	11:00	Drill ahead to 3097m., rotating
11:00	11:30	Rig Service
11:30	15:00	Drill ahead to 3106m., sliding
15:00	16:30	Drill ahead to 3110m, rotating
16:30	19:30	Drill ahead to 3116m., sliding
19:30	21:00	Drill ahead to 3119m., rotating
21:00	21:30	Circulate hole clean, survey
21:30	0:00	POH for bit change, bit at 1996m at midnight

MAXIMUM GAS:	8% @ 3089m	**BACKGROUND GAS:**	1.5 - 6%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

10/10/2006

REPORT # 33

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3119m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Waiting on gooseneck for topdrive ex Djakarta

REMARKS / FORWARD PLAN: Testing BOP's and choke manifold, test due, while repairing top drive, will RIH to shoe after BOP test and renewing battery pack in MWD.

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1919psi**	**BOP TEST**	27/09/2006	**TEST DUE**	11/10

AFD's: 73

SAFETY
1. Pretour: Pipe and chain tongs
2. Pretour: Rotating equipment

WEATHER AM Fine
PM Fine/Cold

BIT INFORMATION

WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**7**	
Size (in)		6.0	
Make		Security	
Type		XR+	
IADC Code		117	
Serial Number		PB9348	
T.F.A.(")		3x 24	
Depth In (m)		3119	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	
AV - DP (fpm)	
AV - DC (fpm)	
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

BHA # 10

TOOL	**LENGTH**
Bit Sec XN4	0.20
Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.29
11xDC's	103.68
Jars	9.34
3xDCs	28.30
BHA LENGTH (m)	170.36
BHA WEIGHT(kLb)	22.1
STRING WT (kLb)	160.3
HOOK LOAD (kLb)	50.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS

FUEL ON SITE	34667 Litres
DAILY USAGE	14350 Litres
CUM. FUEL USED	142186 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4312 Bbls
MUD LOSSES	3548 Bbls

MUD PROPERTIES

Time	2200
Depth (m)	3119
Temp (° C)	
Mud Type	KCL/PHPA/POL
Density (ppg)	10.05
ECD (ppg)	
Viscosity (sec)	39
PV / YP (cp/lb)	11 / 6
Gells (s/m)	1 / 1
API Filt. (cc)	6.8
Cake (/32")	1
Solids (% Vol)	7.7
Sand (% Vol)	Tr
MBT	13
pH (strip)	10.5
Chlorides (mg/l)	107000
KCL (%)	14
PHPA (ppb)	0.87
ALC - 50 (K)	
Circ. Vol. (Bbl)	774

CHEMICAL USAGE

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.5
Coring		
D/O Cement		12.5
Drilling		271.5
FIT / LOT		4.0
Handle BHA		13.0
Repairs	19.0	29.0
Rig Service		5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		5.5
Survey		26.5
Test BOP		18.0
Tight hole / Fishing		
Tripping	5.0	152.5
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		78.0
TOTALS	24.0	785.0

DAILY MUD COSTS	
CUM. MUD COSTS	**$102,051.46**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	3:00	Continue to POH to change bit and BHA
3:00	3:30	Change bit and cycle MWD
3:30	5:00	RIH to 264m
5:00	16:00	Topdrive hit monkeyboard while in extended position, Board sustained visual damage, as did top drive gooseneck, Wait on mast inspector
16:00	17:30	Inspect board..All major support pins, padeye and structural support beams on monkey board OK., Top drive gooseneck non repairable
17:30	22:30	Wait on part for top drive, unable to use change out and use kelly due to casing-kelly sizing
22:30	0:00	POH and rack string in derrick in preparation to test BOP's

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %

SUPERVISOR:	Barry Beetson	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

11/10/2006

REPORT # 34

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3119m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Waiting on gooseneck for topdrive ex Djakarta

REMARKS / FORWARD PLAN: Waiting at 284m with kill string for gooseneck to arrive

PERSONNEL ON SITE: 38

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1919psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 74

SAFETY
1. Pretour: Pressure test procedures
2. Pretour: RIH and pipe tongs

WEATHER AM Fine
PM Fine/cold

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**7**	
Size (in)		6.0	6.0
Make		Smith	Reed
Type		XR+	SL12TKPR
IADC Code		117	
Serial Number		PB9349	NK2619
T.F.A.(")			
Depth In (m)		3119	Safety
Depth Out (m)			String
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 10	
TOOL	**LENGTH**
Smith XR+	0.20
Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.29
11xDC's	103.68
Jars	9.34
3xDCs	28.30
BHA LENGTH (m)	170.36
BHA WEIGHT(kLb)	22.1
STRING WT (kLb)	160.3
HOOK LOAD (kLb)	45.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	
DAILY USAGE	
CUM. FUEL USED	176853 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4312 Bbls
MUD LOSSES	3551 Bbls

MUD PROPERTIES	
Time	2130
Depth (m)	3119
Temp (° C)	
Mud Type	KCL/PHPA/POL
Density (ppg)	10.05
ECD (ppg)	
Viscosity (sec)	39
PV / YP (cp/lb)	10 / 8
Gells (s/m)	1 / 1
API Filt. (cc)	7.3
Cake (/32")	1
Solids (% Vol)	7.7
Sand (% Vol)	Tr
MBT	13
pH (strip)	`0.5
Chlorides (mg/l)	107000
KCL (%)	14
PHPA (ppb)	0.87
ALC - 50 (K)	
Circ. Vol. (Bbl)	771
CHEMICAL USAGE	

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.5
Coring		
D/O Cement		12.5
Drilling		271.5
FIT / LOT		4.0
Handle BHA		13.0
Repairs	18.0	47.0
Rig Service		5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.0
Slip/Cut Drill Line		5.5
Survey		26.5
Test BOP	6.0	24.0
Tight hole / Fishing		
Tripping		152.5
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		78.0
TOTALS	24.0	809.0
DAILY MUD COSTS		
CUM. MUD COSTS		**$102,051.46**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Pull wear bushing
0:30	5:30	Test BOP's and manifold to 200psi lo and 4800psi Hi and accumulator performance test OK
5:30	6:00	Run wear bushing
6:00	12:00	Wait on gooseneck for top drive, wtite JSA for top drive
12:00	13:30	Wait on gooseneck for top drive, review JSA for top drive and RIH with safety string to 257m
13:30	0:00	Wait on gooseneck for top drive, monitoring well, well static

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %

SUPERVISOR:	Barry Beetson/Brian Marriot	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

12/10/2006

REPORT # 35

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3119m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 ETA of Gooseneck confirmed, POOH w/ kill string, m.u.bit & MWD assbly, RIH to 57m, press.test MWD, fault find problems, install Gooseneck & complete repairs, cont. RIH to 3054m, wash to bottom, drill f/ 3119 > 3126

REMARKS / FORWARD PLAN: Drill & steer f/ 3119m to 3219m + -, deviation to aprox 5 deg.

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1919psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 75

SAFETY 1. Tripping & repairs to Top Drive
2.

WEATHER AM Fine
PM Fine/cold

BIT INFORMATION

WOB(kLb)	5-12	**JET V(fps)**	106
RPM	192	**H S I**	
BIT NUMBER		**7**	
Size (in)		6.0	
Make		Smith	
Type		XR+	
IADC Code		117	
Serial Number		PB9349	
T.F.A.(")			
Depth In (m)		3119	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	248
AV - DP (fpm)	256
AV - DC (fpm)	453
SPP (psi)	2950
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	59	**RATE**	59
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 720 @ 40		SCR: 1000 @ 60	

SURVEYS

BHA # 10

TOOL	**LENGTH**
Smith XR+	0.19
Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	33.3
STRING WT (kLb)	167.4
HOOK LOAD (kLb)	120.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	180.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	4000
TORQUE OFF (Amps/Rel.)	3900

BULK PRODUCTS

FUEL ON SITE	41700 Litres
DAILY USAGE	-8650 Litres
CUM. FUEL USED	135153 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4312 Bbls
MUD LOSSES	3553 Bbls

MUD PROPERTIES

Time	2230
Depth (m)	3119
Temp (° C)	
Mud Type	KCL/PHPA/POL
Density (ppg)	10.05
ECD (ppg)	
Viscosity (sec)	39
PV / YP (cp/lb)	11 / 6
Gells (s/m)	1 / 1
API Filt. (cc)	7.5
Cake (/32")	1
Solids (% Vol)	7.7
Sand (% Vol)	Tr
MBT	13
pH (strip)	10.5
Chlorides (mg/l)	107000
KCL (%)	14
PHPA (ppb)	0.87
ALC - 50 (K)	
Circ. Vol. (Bbl)	769

CHEMICAL USAGE

Barite	30

OPERATION / HRS / CUM

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.5
Coring		
D/O Cement		12.5
Drilling		271.5
FIT / LOT		4.0
Handle BHA		13.0
Repairs	20.5	67.5
Rig Service		5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety	0.5	1.5
Slip/Cut Drill Line		5.5
Survey		26.5
Test BOP		24.0
Tight hole / Fishing		
Tripping	3.0	155.5
Wait on Cement		24.5
Wash / Ream		2.0
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		78.0
TOTALS	24.0	833.0

DAILY MUD COSTS	$246.00
CUM. MUD COSTS	**$102,297.46**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	12:30	Wait on gooseneck for top drive, monitoring well, well static
12:30	13:00	Confirmed ETA of Gooseneck for 16:30hrs in Penola. Review JSA & hold safety meeting regarding trip out & in hole
13:00	14:00	POOH f/ 264m
14:00	15:00	Make up 6" bit, BHA ,mud motor & MWD, RIH to 57m
15:00	18:30	Test MWD, fault find w/ cables & receivers (Assemble Gooseneck while cont. to fault find MWD problems) Schlumb. ready @ 19:30hrs
18:30	20:30	Hold PJSM and assemble Gooseneck to Top drive, nipple up Kelly hose & pressure test same
20:30	21:00	RIH f/ 57m to 264m (Ensign back in operation f/ 264m, refer to 05:00hrs on 10th Oct.)
21:00	0:00	Cont. RIH f/ 264m to 1918m, break circ.

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %
SUPERVISOR: Brian Marriott	**GEOLOGIST:** Dave Horner	**MUD CO:** RMN Drilling Fluids	

DAILY DRILLING REPORT

13/10/2006

REPORT # 36

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3169m**	**24 HR PROG**	**50m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	$5,441.10

OP's TO 06:00 RIH to 3054m, light wash to bottom, drill w/ down hole mtr. & MWD f/ 3119m > 3181m

REMARKS / FORWARD PLAN: Expect to have enough deviation by 09:00hrs today, then POOH to run PDC >>>>Drill & steer ahead, taking surveys as required

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1791psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 76 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Fine **PM** Fine

BIT INFORMATION			
WOB(kLb)	10-14	**JET V(fps)**	106
RPM	192	**H S I**	0.53
BIT NUMBER		**7**	
Size (in)		6.0	
Make		Smith	
Type		XR+	
IADC Code		117	
Serial Number		PB9349	
T.F.A.(")			
Depth In (m)		3119	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		248	
AV - DP (fpm)		256	
AV - DC (fpm)		453	
SPP (psi)		3050	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	59	**RATE**	59
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 540 @ 40		SCR: 950 @ 60	
SURVEYS			
2.04° at 3120m			
2.72° at 3148m			

BHA # 10	
TOOL	**LENGTH**
Smith XR+	0.19
Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	33.1
STRING WT (kLb)	169.0
HOOK LOAD (kLb)	180.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	195.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	5100
TORQUE OFF (Amps/Rel.)	3057
BULK PRODUCTS	
FUEL ON SITE	37850 Litres
DAILY USAGE	3850 Litres
CUM. FUEL USED	139003 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4422 Bbls
MUD LOSSES	3582 Bbls

MUD PROPERTIES	
Time	2300
Depth (m)	3165
Temp (° C)	52
Mud Type	KCL/PHPA/POL
Density (ppg)	10.30
ECD (ppg)	
Viscosity (sec)	36
PV / YP (cp/lb)	9 / 6
Gells (s/m)	1 / 1
API Filt. (cc)	6.6
Cake (/32")	1
Solids (% Vol)	7.9
Sand (% Vol)	Tr
MBT	12
pH (strip)	10
Chlorides (mg/l)	131000
KCL (%)	11.5
PHPA (ppb)	0.84
ALC - 50 (K)	
Circ. Vol. (Bbl)	731
CHEMICAL USAGE	
AMC Pac- LV	5
Biocide G	1
NaCl	456
PHPA	1
Sodium Sulphite	1
Xanthan Gum	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		30.5
Coring		
D/O Cement		12.5
Drilling	20.0	291.5
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service		5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.5
Slip/Cut Drill Line		5.5
Survey	1.5	28.0
Test BOP		24.0
Tight hole / Fishing		
Tripping	2.0	157.5
Wait on Cement		24.5
Wash / Ream	0.5	2.5
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		78.0
TOTALS	24.0	857.0
DAILY MUD COSTS		$5,441.10
CUM. MUD COSTS		**$107,738.56**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Cont. RIH f/ 1918m to 3054m, break circ.
2:00	2:30	Light wash f/ 3054m to bottom @ 3119m (2m fill)
2:30	3:00	Drill ahead f/ 3119m to 3127m, rotating 60rpm (880 units gas, slight flow @ flow line, wt. up f/ 10.1ppg to 10.2ppg +)
3:00	8:30	Drill f/ 3127m to 3135m, rotating 60 rpm
8:30	9:00	Survey @ 3120m = 2.04 deg., AZI =111.74
9:00	10:30	Set tool face, slide f/ 3135m to 3140.5m
10:30	12:00	Drill f/ 3140.5m to 3143m, rotating 60 rpm
12:00	21:00	Drill f/ 3143m to 3164m, rotating 60 rpm, Flow 250gpm (132rpm), 12-14WOB
21:00	22:00	Take SCR's @ 3164m make connection, take survey @3148m, orientate string to slide.
22:00	0:00	Slide f/ 3164m to 3169m. 12-14WOB, 250gpm

MAXIMUM GAS:	2900% @ 3152m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	938%	**TRIP GAS:**	89%

SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

14/10/2006

REPORT # 37

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3182m**	**24 HR PROG**	**13m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Slide f/ 3169 > 3170m, drill f/ 3170 > 3182m rotating, circ. bot's up, POOH to 2729, slight flow, RIH, circ. & wt. up f/ 10.3 to 10.5ppg +, POOH, make up 6" PDC bit, RIH

REMARKS / FORWARD PLAN: Slight oil leak on drilling jars, require replacement >> Pres.op. @ 06:00hrs drlg ahead thru. 3192m, Rotating, RPM = 192, WOB = 6k, ROP = 40mph, Drill ahead

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1663psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 77 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Overcast **PM** O/cast & showers

BIT INFORMATION			
WOB(kLb)	12-14	**JET V(fps)**	106
RPM	192	**H S I**	0.54
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")			
Depth In (m)		3182	
Depth Out (m)		IN	
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		248	
AV - DP (fpm)		256	
AV - DC (fpm)		453	
SPP (psi)		3050	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	59	**RATE**	59
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 10	
TOOL	**LENGTH**
DSX516M-B1, RR4	0.19
Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	33.0
STRING WT (kLb)	168.8
HOOK LOAD (kLb)	185.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	190.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	5100
TORQUE OFF (Amps/Rel.)	3500
BULK PRODUCTS	
FUEL ON SITE	33350 Litres
DAILY USAGE	4500 Litres
CUM. FUEL USED	143503 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4542 Bbls
MUD LOSSES	3606 Bbls

MUD PROPERTIES	
Time	1100
Depth (m)	3182
Temp (° C)	51
Mud Type	KCL/PHPA/POL
Density (ppg)	10.55
ECD (ppg)	
Viscosity (sec)	36
PV / YP (cp/lb)	10 / 5
Gells (s/m)	1 / 3
API Filt. (cc)	6
Cake (/32")	1
Solids (% Vol)	7.8
Sand (% Vol)	Tr
MBT	12
pH (strip)	9.5
Chlorides (mg/l)	159000
KCL (%)	10
PHPA (ppb)	0.83
ALC - 50 (K)	
Circ. Vol. (Bbl)	770
CHEMICAL USAGE	

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	3.5	34.0
Coring		
D/O Cement		12.5
Drilling	6.5	298.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service		5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.5
Slip/Cut Drill Line		5.5
Survey		28.0
Test BOP		24.0
Tight hole / Fishing		
Tripping	14.0	171.5
Wait on Cement		24.5
Wash / Ream		2.5
Well Control		1.0
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		78.0
TOTALS	24.0	881.0
DAILY MUD COSTS		
CUM. MUD COSTS		**$107,738.56**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Slide f/ 3169m to 3170m
0:30	6:30	Drill f/ 3170m to 3182m, (ROP dropped off, have 4 deg. dev. @ bit) >>>> rotating 60rpm, flow 250gpm (132rpm), WOB =12 > 14
6:30	7:30	Circ. Bottoms up, back ground gas = 30 units
7:30	9:00	Pump slug, flow check, ok, POOH to shoe, flow check, slight flow, POOH another # 5 std's to 2729m, flow check, flow continued.
9:00	10:00	RIH to bottom @ 3182m
10:00	12:30	Circ. Bottoms up & wt. up f/ 10.3ppg to 10.5ppg + w/ salt (max gas from bot's up = 4154 units with slightly oil cut mud)
12:30	17:00	Pump slug, flow check, ok, POOH to shoe, flow check, slight flow, observe for 15 minutes, intermittent flow, cont. POOH flow check every 10 std's
17:00	19:30	Continue to POH, check motor and breakout bit
19:30	21:30	Layout motor, pick up new motor and make up 6" PDC bit, DSX516M, w/ 5x15 jets
21:30	22:00	RIH to 57m, test MWD, 2x59spm, 890psi
22:00	0:00	RIH to 1057m, break circulation, flow check

MAXIMUM GAS:	330% @ 3179m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	4154%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

15/10/2006

REPORT # 38

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3207m**	**24 HR PROG**	**25m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Drill f/3182m to 3207m, well kicked, wt. up to 10.8ppg+ while circ. out influx, open annular, well static, attempt to circ, no go, POOH, string blocked w/ salt f/ HWDP, clear same, p.u. bit, RIH to shoe, slip & cut, Circ.

REMARKS / FORWARD PLAN: Jars still leaking >>> Rig service while circ. bot's up @ shoe, 2491 units gas. Pres. Op. RIH f/ shoe to 3207m, circ. bot's up, drill ahead f/ 3207 to 3450m, POOH, lay out MWD

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1510psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 78

SAFETY: 1. Safety meeting; 2.

WEATHER AM: Fine

PM: Fine / O/cast

BIT INFORMATION

WOB(kLb)	4-5	**JET V(fps)**	106
RPM	192	**H S I**	0.56
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")		0.752	
Depth In (m)		3182	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	248
AV - DP (fpm)	256
AV - DC (fpm)	453
SPP (psi)	
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	59	**RATE**	59
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"

SURVEYS

2.72° at 3148m

BHA # 10

TOOL	**LENGTH**
DSX516M-B1, RR4	0.19
Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	32.8
STRING WT (kLb)	169.1
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS

FUEL ON SITE	
DAILY USAGE	
CUM. FUEL USED	176853 Litres
BARITES ON SITE	125 kg
BARITES USED	175 kg
MUD MIXED	4542 Bbls
MUD LOSSES	3804 Bbls

MUD PROPERTIES

Time	1200
Depth (m)	3207
Temp (° C)	50
Mud Type	KCL/PHPA/POL
Density (ppg)	10.85
ECD (ppg)	
Viscosity (sec)	37
PV / YP (cp/lb)	8 / 4
Gells (s/m)	1 / 2
API Filt. (cc)	4.8
Cake (/32")	1
Solids (% Vol)	8.3
Sand (% Vol)	Tr
MBT	13
pH (strip)	9
Chlorides (mg/l)	183000
KCL (%)	9.5
PHPA (ppb)	0.83
ALC - 50 (K)	
Circ. Vol. (Bbl)	692

CHEMICAL USAGE

Barite	103
NaCl	978

OPERATION

	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	1.0	35.0
Coring		
D/O Cement		12.5
Drilling	1.0	299.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service		5.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.5
Slip/Cut Drill Line	0.5	6.0
Survey		28.0
Test BOP		24.0
Tight hole / Fishing		
Tripping	14.5	186.0
Wait on Cement		24.5
Wash / Ream	0.5	3.0
Well Control	2.5	3.5
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other	4.0	82.0
TOTALS	24.0	905.0

DAILY MUD COSTS	$9,304.30
CUM. MUD COSTS	**$120,282.86**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:30	Cont. RIH f/ 1057m to 1948m
1:30	2:00	Break circ.,flow check, slight flow, 1/2bbl gain, mud airated
2:00	3:30	Cont. RIH to shoe @ 2998m
3:30	4:00	Break circ. & circ. bottoms up, 600 units of gas, monitor well
4:00	4:30	Slip drilling line
4:30	5:00	Cont. RIH to 3154m, break circ., take SCR's
5:00	5:30	Wash last stand to bottom @ 3182m, take check survey
5:30	6:30	Drill f/ 3182m to 3207m, rotating 60rpm, 250gpm (133rpm), (total 193rpm), WOB = 5 > 7 (bottoms up f/ 3182m = 3445 units)
6:30	7:00	At 3207m, gas peaked @ 4345units, stop drilling, circ. out, oil cut mud over shakers, gas leveled out @ 4000 units
7:00	8:00	Circ.& wt. up mud f/ 10.6ppg, gained 28bbls (Geo. estimates oil / gas came f/ aprox 3192m)(note; 60bbls gained f/ salt added to sys.)
8:00	9:00	Shut in well @ 08:00hrs, circ. out bot's up thru. choke, gained = 26bbls, cont. wt. up to 10.8ppg, (gas = 90 units)(salt saturated mud)
9:00	10:00	Open annular, well static, attempt to circ. long way, can't circ., check Top Drive IBOP valves, ok, brk. off stand, circ., ok, attempt to circ.
10:00	10:30	Attempt to clear blocked string, no success, flow check, ok
10:30	11:00	POOH to shoe, hole slick, flow check, ok
11:00	11:30	Attempt to clear blocked string, no success, flow check, ok
11:30	16:30	POOH to clear obstruction in drill string, flow check every 10 std's., found salt packed off from 2nd. stand of HWDP
16:30	17:30	Break off stands of HWDP & DC's & clear salt f/ same, check & clear salt f/ MWD, check rotation on motor, no go, lay out motor
17:30	18:30	Close blind rams, line up pumps on water & flush out choke manifold & poor boy, transfer mud in tanks, check same, clear rig floor
18:30	21:30	Pick up (Beach) Transco P100XL mud mtr., make up bit, orientate & calibrate mtr.Test MWD tools & fault find,
21:30	0:00	RIH BHA and drift same, drift lodged in DC - flushed thru. break circ @ top hwdp 256m circulate clear.Cont. RIH to 977, brk. Circ.

MAXIMUM GAS:	4560% @ 3193m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	3445%

SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

16/10/2006

REPORT # 39

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3267m**	**24 HR PROG**	**60m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 RIH to shoe, slip & cut, wash f/ 3007m to bottom @ 3207m, drill f/ 3207m to 3217m, 4956 units of gas, stop drilling & circ. out, drill f/ 3217 to 3267m taking surveys as required

REMARKS / FORWARD PLAN: Slide f/ 3267m to 3279m @ 06:00hrs, (controlled WOB & ROP, due to motor stalling & aggressive drilling)

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1382psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 79 **SAFETY** 1. Toolbox meeting; 2. **WEATHER AM** Fine; **PM** Fine

BIT INFORMATION

WOB(kLb)	2-5	**JET V(fps)**	92
RPM	192	**H S I**	0.43
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")		0.863	
Depth In (m)		3207	
Depth Out (m)		3207	
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	248
AV - DP (fpm)	256
AV - DC (fpm)	453
SPP (psi)	3080
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	59	**RATE**	59
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 540 @ 40		SCR: 920 @ 60	

SURVEYS

	0.92° at 3249m
1.0° at 3206m	
0.69° at 3234m	

BHA # 10

TOOL	LENGTH
DSX516M-B1, RR4	0.19
P100XL Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	32.6
STRING WT (kLb)	171.1
HOOK LOAD (kLb)	180.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	185.0
DRAG DOWN (kLb)	175.0
TORQUE ON (Amps/Rel.)	4100
TORQUE OFF (Amps/Rel.)	3050

BULK PRODUCTS

FUEL ON SITE	27000 Litres
DAILY USAGE	4000 Litres
CUM. FUEL USED	149853 Litres
BARITES ON SITE	100 kg
BARITES USED	200 kg
MUD MIXED	4902 Bbls
MUD LOSSES	3828 Bbls

MUD PROPERTIES

Time	2400
Depth (m)	3267
Temp (° C)	51
Mud Type	KCL/PHPA/POL
Density (ppg)	11.10
ECD (ppg)	
Viscosity (sec)	34
PV / YP (cp/lb)	8 / 6
Gells (s/m)	1 / 1
API Filt. (cc)	4.6
Cake (/32")	2
Solids (% Vol)	8.6
Sand (% Vol)	0.1
MBT	12
pH (strip)	9
Chlorides (mg/l)	177000
KCL (%)	7.5
PHPA (ppb)	0.7
ALC - 50 (K)	
Circ. Vol. (Bbl)	778

CHEMICAL USAGE

AMC Pac- LV	6
Barite	981
Biocide G	3
Caustic Soda	2
Defoamer	1
NaCl	174
PHPA	3
Sodium Sulphite	3
Xanthan Gum	7
KCL	153

OPERATION

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	0.5	35.5
Coring		
D/O Cement		12.5
Drilling	14.0	313.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service	1.0	6.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.5
Slip/Cut Drill Line	1.0	7.0
Survey	2.0	30.0
Test BOP		24.0
Tight hole / Fishing		
Tripping	3.5	189.5
Wait on Cement		24.5
Wash / Ream	2.0	5.0
Well Control		3.5
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		82.0
TOTALS	24.0	929.0

DAILY MUD COSTS	$17,180.13
CUM. MUD COSTS	**$137,462.99**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	3:30	Cont. RIH , break circ. every 25 std's, run to shoe @ 2998 m
3:30	4:30	Slip & cut drilling line
4:30	5:30	Rig service, circ. bottoms up while service rig, 2491 units gas on bottoms up
5:30	7:30	Cont. RIH, light wash & ream f/ 3007m to 3207m, max gas on bottoms up = 300 units
7:30	8:00	Drill ahead f/ 3207m to 3217m, rotating 60rpm, 250gpm = 130rpm, WOB = 3k > 5k, gas peaked @ 4956 units
8:00	8:30	Stop drilling, Circ. out gas, circ. w/ continuouse 4500 units for 10 minutes, commence to wt. up f/ 10.8ppg + to 11.00ppg w/ barite
8:30	9:00	Drill ahead f/ 3217m to 3221m (intermittent gas peaks f/ 2000 to 4500 units)
9:00	9:30	Circ. & survey @ 3206.34, > 1 deg., > AZI = 172.45 (note; angle dropped due to additional circulating over last #2 days)
9:30	11:00	Slide f/ 3221m to 3225m, motor stalling out, pressure increase, tool hanging up, suspend sliding operation
11:00	13:00	Drill f/ 3225m to 3243m, rotating 60rpm, WOB = 2 to 3k
13:00	13:30	Recycle tool & orientate tool face
13:30	20:30	Slide f/ 3243m to 3250m, 250gpm = 132rpm, (controlled ROP & WOB)
20:30	21:00	Take SCR's, flow check, make connection, conduct Survey @ 3234m, 0.60 deg., AZI = 350.93
21:00	22:30	Drill f/ 3250m to 3265m, rotating 60rpm, 250gpm = 132rpm, WOB = 2k > 5k
22:30	23:00	Survey @ 3249m, 0.92 deg., AZI = 242.06
23:00	0:00	Slide f/ 3265m to 3267m, w/ controlled WOB & ROP, due to motor stalling & aggresive drilling

MAXIMUM GAS:	4956% @ 3215m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	4465%	**TRIP GAS:**	4709%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

17/10/2006

REPORT # 40

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3361m**	**24 HR PROG**	**94m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laria	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Slide / drill f/ 3265m to 3386m, taking surveys as required, 40k o.p. @ 3386m after survey, circ. bottoms up & work pipe, wiper trip, intermittent 10 to 15k o.p., 50k o.p. @ 3259m, jar free, cont. POOH to shoe, hole ok

REMARKS / FORWARD PLAN: Present Op. = Wiper to shoe, then RIH, wash & ream tight hole f/ 3200m to bottom, drill ahead to 3500m + -

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1331psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 80 **SAFETY** 1. Toolbox meeting; 2. **WEATHER AM** Fine; **PM** Showers

BIT INFORMATION

WOB(kLb)	2-4	**JET V(fps)**	91
RPM	200	**H S I**	0.41
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")		0.863	
Depth In (m)		3207	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	244
AV - DP (fpm)	252
AV - DC (fpm)	445
SPP (psi)	3150
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	58	**RATE**	58
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 580 @ 40		SCR: 980 @ 60	

SURVEYS

1.48° at 3263m	2.89° at 3311m
2.6° at 3282m	1.86° at 3349m
1.86° at 3292m	3.0° at 3370m

BHA # 10

TOOL	**LENGTH**
DSX516M-B1, RR4	0.19
P100XL Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	32.6
STRING WT (kLb)	175.1
HOOK LOAD (kLb)	180.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	200.0
DRAG DOWN (kLb)	185.0
TORQUE ON (Amps/Rel.)	5900
TORQUE OFF (Amps/Rel.)	3500

BULK PRODUCTS

FUEL ON SITE	36935 Litres
DAILY USAGE	8100 Litres
CUM. FUEL USED	157953 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	4902 Bbls
MUD LOSSES	3906 Bbls

MUD PROPERTIES

Time	2300
Depth (m)	3357
Temp (° C)	54
Mud Type	KCL/PHPA/POL
Density (ppg)	11.20
ECD (ppg)	
Viscosity (sec)	36
PV / YP (cp/lb)	10 / 8
Gells (s/m)	1 / 2
API Filt. (cc)	4.4
Cake (/32")	1
Solids (% Vol)	9.2
Sand (% Vol)	Tr
MBT	11
pH (strip)	9
Chlorides (mg/l)	175000
KCL (%)	6.5
PHPA (ppb)	0.7
ALC - 50 (K)	
Circ. Vol. (Bbl)	810

CHEMICAL USAGE

Barite	132
Caustic Soda	1
Defoamer	2

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		35.5
Coring		
D/O Cement		12.5
Drilling	21.0	334.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service	0.5	6.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.5
Slip/Cut Drill Line		7.0
Survey	2.5	32.5
Test BOP		24.0
Tight hole / Fishing		
Tripping		189.5
Wait on Cement		24.5
Wash / Ream		5.0
Well Control		3.5
Well Test		
Wiper Trip		14.0
Wireline		8.5
Other		82.0
TOTALS	24.0	953.0

DAILY MUD COSTS	$1,424.10
CUM. MUD COSTS	**$138,887.09**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	6:00	Slide f/ 3267m to 3279m, w/ controlled WOB & ROP, due to motor stalling & aggresive drilling
6:00	6:30	Survey @ 3263m, 1.48 deg., AZI = 232.23
6:30	7:00	Drill f/ 3279 to 3300m, rotating 60rpm, 250gpm = 130rpm, WOB = 3k > 4k (each conn. gas peaks to 4500 units, w/ traces of oil in mud)
7:00	7:30	Survey @ 3282.64, 2.6 deg., AZI = 228.60
7:30	11:30	Slide f/ 3300m to 3306m, 250gpm = 132rpm
11:30	12:00	Drill f/ 3306m to 3308m, rotate 70rpm, 250gpm = 130rpm, (total 200rpm) WOB = 3k
12:00	12:30	Rig Service & Survey @ 3292.43m, = 1.86, AZI = 259.15
12:30	14:30	Drill f/ 3308m to 3327m, rotating 70rpm, 250gpm = 130rpm, (total 200rpm), WOB = 2 > 3k
14:30	15:00	Circ. & survey @ 3311.56m, = 2.89 deg., AZI = 223.6
15:00	18:30	Drill f/ 3327m to 3356m, rotating 70rpm, 250gpm = 130rpm, (total 200rpm) WOB, = 3k
18:30	19:00	Circ. & survey @ 3341m, 1.99 deg., AZI = 256.98, orienate string / MWD for slide
19:00	0:00	Slide / 3356m to 3361m

MAXIMUM GAS:	4583% @ 3357m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	4570%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

18/10/2006

REPORT # 41

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3418m**	**24 HR PROG**	**57m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Slide / Drill f/ 3356m to 3386m, surveys as required, 40k o.p. @ 3386m, circ., Wiper to shoe, RIH, wash / Ream f/ 3200m to bottom @ 3386m, Slide / Drill f/ 3386m to 3451m, take surveys as required

REMARKS / FORWARD PLAN: (Lag time on conn. Gasses, corresponds to a depth @ 3192m) / Cont. drill thru. 3451m @ 06:00hrs. Plan is to drill / slide ahead to 3500m + -, POOH & lay out Schumb. tools

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1279psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 81

SAFETY: 1. Toolbox meeting; 2.

WEATHER AM: Overcast

PM: Overcast/Shower

BIT INFORMATION

WOB(kLb)	3-4	**JET V(fps)**	91
RPM	200	**H S I**	0.42
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code		PDC	
Serial Number		114752	
T.F.A.(")		0.863	
Depth In (m)		3207	
Depth Out (m)		3207	
Total Meters			
Hours			
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	244
AV - DP (fpm)	252
AV - DC (fpm)	445
SPP (psi)	3170
SPP (calculated)	

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	58	**RATE**	58
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 630 @ 40		SCR: 1080 @ 60	

SURVEYS

3.0° at 3370m	2.92° at 3407m
2.48° at 3378m	2.99° at 3427m
3.21° at 3398m	

BHA # 10

TOOL	**LENGTH**
DSX516M-B1, RR4	0.19
P100XL Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	32.5
STRING WT (kLb)	177.3
HOOK LOAD (kLb)	190.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	200.0
DRAG DOWN (kLb)	180.0
TORQUE ON (Amps/Rel.)	5650
TORQUE OFF (Amps/Rel.)	4093

BULK PRODUCTS

FUEL ON SITE	32250 Litres
DAILY USAGE	4685 Litres
CUM. FUEL USED	162638 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5002 Bbls
MUD LOSSES	3975 Bbls

MUD PROPERTIES

Time	2345
Depth (m)	3418
Temp (° C)	53
Mud Type	KCL/PHPA/POL
Density (ppg)	11.30
ECD (ppg)	
Viscosity (sec)	35
PV / YP (cp/lb)	10 / 9
Gells (s/m)	1 / 2
API Filt. (cc)	5.5
Cake (/32")	1
Solids (% Vol)	9.8
Sand (% Vol)	Tr
MBT	9
pH (strip)	9
Chlorides (mg/l)	171000
KCL (%)	7
PHPA (ppb)	0.74
ALC - 50 (K)	
Circ. Vol. (Bbl)	800

CHEMICAL USAGE

AMC Pac- LV	3
Barite	384
Biocide G	1
Caustic Soda	1
PHPA	2
Sodium Sulphite	3
Xanthan Gum	2
KCL	84

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	0.5	36.0
Coring		
D/O Cement		12.5
Drilling	17.5	351.5
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service		6.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		1.5
Slip/Cut Drill Line		7.0
Survey	2.0	34.5
Test BOP		24.0
Tight hole / Fishing		
Tripping		189.5
Wait on Cement		24.5
Wash / Ream	3.0	8.0
Well Control		3.5
Well Test		
Wiper Trip	0.5	14.5
Wireline		8.5
Other	0.5	82.5
TOTALS	24.0	977.0

DAILY MUD COSTS	$6,510.99
CUM. MUD COSTS	**$145,398.08**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Slide f/ 3361m to 3362m
1:00	1:30	Drill f/ 3362m to 3366m, rotating
1:30	2:00	Survey @ 3365m, 1.86 deg., AZI = 275.69
2:00	4:30	Drill f/ 3366m to 3386m, rotating 70rpm, 248gpm = 125rpm (total = 195rpm) WOB = 3k
4:30	5:00	Survey @ 3370m 3 deg., AZI = 232.77
5:00	5:30	Complete survey, work pipe, 40k over pull, hole sticky, circ. bottoms up, 4497 units of gas
5:30	6:00	Flow check, slug pipe, Wiper trip to shoe (14 stands), intermittent 10k to 15k overpull, jar free 50k overpull @ 3259m, cont. POOH, ok
6:00	9:00	RIH to 3200m, light wash & ream thru 3259m, cont. W/R to botttom, 25k overpull on bottom, wash, work & ream f/ 3383m to 3386m
9:00	9:30	Recycle tool & Oreintate tool face
9:30	15:00	Slide f/ 3386m to 3391m, 248gpm = 125rpm, (Lag time on connection gas corresponds to a depth @ 3192m = 4240 units)
15:00	16:00	Drill f/ 3391m to 3394m, rotating 70rpm, 252gpm = 131rpm, (total 201rpm) WOB = 3k
16:00	16:30	Survey @ 3378.51m, 2.48, AZI =244.84 (take SCR's w/ 11.3ppg mud wt.)
16:30	18:30	Drill f/ 3394m to 3413m, rotating 70rpm, 252gpm = 131rpm, (total 201rpm) WOB = 3k > 4k
18:30	19:00	Survey @ 3398.34, 3.21 deg., AZI = 204.45
19:00	0:00	Slide f/ 3413m to 3418m, 244gpm = 127rpm

MAXIMUM GAS:	4624% @ 3394m	**BACKGROUND GAS:**	160%	**CONNECTION GAS:**	4624%	**TRIP GAS:**	4233%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

19/10/2006

REPORT # 42

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3507m**	**24 HR PROG**	**89m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Laira	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Slide / Drill f/ 3418m to 3507, Circ. bot's up, Survey, POOH to 2000m, spot 60bbls 13.5ppg mud, POOH, lay out Schlumb. tools, Jars & Monal d.c., RR bit, p.u. #1 std. d.c.& new Jars, RIH to 2580m, circ.out 13.5ppg pill

REMARKS / FORWARD PLAN: Lost 10bbls mud to annulus to 2000m, spot 13.5ppg pill, lost additional 18bbls for trip. >> Op. = Drill ahead, reduce mud wt. 0.1ppg per. circulation & evaluate

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1279psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 82

SAFETY: 1. Toolbox meeting; 2. Safety meeting, regarding losing mud to formation

WEATHER AM: Overcast
PM: Overcast

BIT INFORMATION			
WOB(kLb)	3-6	**JET V(fps)**	73
RPM	200	**H S I**	0.24
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code			
Serial Number		114752	
T.F.A.(")			
Depth In (m)		3507	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out		1 1 NO A X 1 1 BHA	
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		3150	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 1040 @ 630		SCR: 1060 @ 640	
SURVEYS			
1.56° at 3464m			
1.37° at 3491m			

BHA # 10	
TOOL	**LENGTH**
DSX516M-B1, RR4	0.19
P100XL Mud Motor	6.79
Float sub	0.52
MWD NM pony collar	1.94
MWD collar	10.30
NMDC	9.30
11xDC's	104.08
Jars	9.34
3xDCs	28.30
9xHWDP	85.50
BHA LENGTH (m)	256.26
BHA WEIGHT(kLb)	32.5
STRING WT (kLb)	181.4
HOOK LOAD (kLb)	191.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	202.0
DRAG DOWN (kLb)	181.0
TORQUE ON (Amps/Rel.)	5650
TORQUE OFF (Amps/Rel.)	4093
BULK PRODUCTS	
FUEL ON SITE	20500 Litres
DAILY USAGE	11750 Litres
CUM. FUEL USED	174388 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5102 Bbls
MUD LOSSES	4112 Bbls

MUD PROPERTIES	
Time	1600
Depth (m)	3507
Temp (° C)	54
Mud Type	KCL/PHPA/POL
Density (ppg)	11.30
ECD (ppg)	
Viscosity (sec)	35
PV / YP (cp/lb)	10 / 9
Gells (s/m)	1 / 2
API Filt. (cc)	5.2
Cake (/32")	1
Solids (% Vol)	9.3
Sand (% Vol)	Tr
MBT	9
pH (strip)	9
Chlorides (mg/l)	182000
KCL (%)	7.75
PHPA (ppb)	0.69
ALC - 50 (K)	
Circ. Vol. (Bbl)	815
CHEMICAL USAGE	
Barite	304
Biocide G	1
Caustic Soda	1
PHPA	2
Xanthan Gum	3
KCL	84
Kwikseal F	2

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	1.5	37.5
Coring		
D/O Cement		12.5
Drilling	12.5	364.0
FIT / LOT		4.0
Handle BHA		13.0
Repairs		67.5
Rig Service		6.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety	0.5	2.0
Slip/Cut Drill Line		7.0
Survey	2.0	36.5
Test BOP		24.0
Tight hole / Fishing		
Tripping	7.0	196.5
Wait on Cement		24.5
Wash / Ream		8.0
Well Control		3.5
Well Test		
Wiper Trip		14.5
Wireline		8.5
Other	0.5	83.0
TOTALS	24.0	1001.0
DAILY MUD COSTS		$5,747.18
CUM. MUD COSTS		**$151,145.26**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Slide f/ 3418m to 3419m, 244gpm = 127rpm
0:30	1:00	Drill f/ 3419m to 3423m, rotating 60rpm, 244gpm = 127rpm (total 187rpm) WOB = 3k > 4k
1:00	1:30	Survey @ 3407.21, 2.92 deg., AZI = 211.58
1:30	4:30	Drill f/ 3423m to 3443m, rotating 60rpm, losing mud @ 20bbls/ hr f/ 3440m, add LCM
4:30	5:00	Survey @ 3427.02, 2.99 deg., AZI = 169.22
5:00	6:00	Drill f/ 3443m to 3452m, rotating 60rpm
6:00	6:30	Take SCR's, make connection & hold "Safety Meeting" due to losses to the hole @ 20bbls.hr (med. / fine sands @ 3440m)
6:30	7:00	Survey @ 3436m, failed due to pop off relief valve on mud pump
7:00	10:30	Drill f/ 3452m to 3480m, rotating 60rpm, 240gpm = 125rpm, (total 185rpm), WOB = 4 > 7k
10:30	11:00	Survey @ 3464.60m, 1.56 deg., AZI = 157.28
11:00	15:00	Drill f/ 3480m to 3507m, rotating 60rpm, 240gpm = 125rpm, (total 185rpm) WOB = 5 > 9k
15:00	16:00	Circ. Bottoms up
16:00	16:30	Survey @ 3491.68m, 1.37 deg., AZI = 50.64 >>>>>>>>> (Projection to bottom @ 3507.00, 1.2 deg., AZI = 40)
16:30	19:30	Flow check, slug pipe, POOH to shoe (intermittent 10k to 25k for first 10std's to 3220m), flow check, cont. POOH to 2000m
19:30	20:00	"Lost 10bbls to the hole, while POOH to 2000m", Spot 60bbls 13.5ppg mud (493m) (2000m back to 1507m)
20:00	0:00	Cont. POOH to jars lay out same & pick up new set.S/N 1400-222A

MAXIMUM GAS:	3443% @ 1646m	**BACKGROUND GAS:**	125 - 250%	**CONNECTION GAS:**	3480%	**TRIP GAS:**	2548%
SUPERVISOR:	Brian Marriott/ Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

20/10/2006

REPORT # 43

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3563m**	**24 HR PROG**	**56m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: RIH w/ RR #4, DSX516 bit, to 2280m, circ. out 13.5ppg pill, cont. RIH to shoe, slip Drlg. line, RIH to bottom, circ. bot's up, drill f/ 3507m to 3563m, reduce mud wt. f/11.4ppg + to 11.2ppg

REMARKS / FORWARD PLAN: Formation top for "Pretty Hill" @ 3508m >>>> R.O.P. slowed to 1 mph, POOH lay out M/motor & bit & RIH Tricone, Smith XR30 (537) w/ 3x24 jets, Drill ahead

PERSONNEL ON SITE: 40

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1331psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 83

SAFETY
1. Toolbox meeting
2. Hole losses & drlg. into Pretty Hill formation over balance

WEATHER AM shower
PM overcast

BIT INFORMATION

WOB(kLb)	4-12	**JET V(fps)**	73
RPM	190	**H S I**	0.23
BIT NUMBER		**RR4**	
Size (in)		6.0	
Make		Hyc	
Type		DSX516M	
IADC Code			
Serial Number		114752	
T.F.A.(")			
Depth In (m)		3507	
Depth Out (m)		3564	
Total Meters		57	
Hours		145.5	
ROP			
Condition Out			

FLOW DATA

CIRC. RATE (gpm)	210
AV - DP (fpm)	217
AV - DC (fpm)	383
SPP (psi)	2900
SPP (calculated)	2570

PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 1040 @ 630		SCR: 1060 @ 640	

SURVEYS

BHA # 11

TOOL	**LENGTH**
DSX516M-B1,RR	0.20
P100XL Mud Motor	7.25
Float sub	0.52
14 X DC's	132.38
Jars	8.96
3 X DC's	28.30
9 X HWDP	85.50
BHA LENGTH (m)	263.11
BHA WEIGHT(kLb)	33.3
STRING WT (kLb)	184.7
HOOK LOAD (kLb)	195.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	208.0
DRAG DOWN (kLb)	188.0
TORQUE ON (Amps/Rel.)	6100
TORQUE OFF (Amps/Rel.)	4093

BULK PRODUCTS

FUEL ON SITE	21050 Litres
DAILY USAGE	4350 Litres
CUM. FUEL USED	173838 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5202 Bbls
MUD LOSSES	4127 Bbls

MUD PROPERTIES

Time	2230
Depth (m)	3558
Temp (° C)	50
Mud Type	KCL/PHPA/POL
Density (ppg)	11.20
ECD (ppg)	11.61
Viscosity (sec)	36
PV / YP (cp/lb)	11 / 9
Gells (s/m)	1 / 2
API Filt. (cc)	5.5
Cake (/32")	1
Solids (% Vol)	8.7
Sand (% Vol)	Tr
MBT	8
pH (strip)	9.5
Chlorides (mg/l)	181000
KCL (%)	8
PHPA (ppb)	0.7
ALC - 50 (K)	
Circ. Vol. (Bbl)	840

CHEMICAL USAGE

Barite	320
Biocide G	2
Caustic Soda	3
PHPA	2
Sodium Sulphite	4
Xanthan Gum	2
KCL	84
Kwikseal F	1

OPERATION

	HRS	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	2.0	39.5
Coring		
D/O Cement		12.5
Drilling	13.5	377.5
FIT / LOT		4.0
Handle BHA	1.0	14.0
Repairs		67.5
Rig Service		6.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line	0.5	7.5
Survey		36.5
Test BOP		24.0
Tight hole / Fishing		
Tripping	6.5	203.0
Wait on Cement		24.5
Wash / Ream	0.5	8.5
Well Control		3.5
Well Test		
Wiper Trip		14.5
Wireline		8.5
Other		83.0
TOTALS	24.0	1025.0

DAILY MUD COSTS	$5,879.09
CUM. MUD COSTS	**$157,024.35**
AFE COST - C&S	
AFE COST - P&A	
AFE COST - C&C	

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Break out bit, Set motor to 0 -degrees, Lay out monel & MWD (lost additional 25bbls after spotting 13.5ppg pill @ 2000m while POOH)
1:00	5:30	Make up RR4 bit, DSX516, s.n. 114752, install totco ring, RIH to 1122m, break circ., cont. RIH to 2580m , mud leval dropped 2m
5:30	6:30	Circ.out weighted 13.5ppg pill (lost 9bbls while RIH to 2580) (lost additional 27bbls while circ. out weighted pill) return to slug tank, nil gas
6:30	7:00	Slip drilling line
7:00	8:00	Cont. RIH to shoe @ 2998m, slowly
8:00	8:30	Circ. bottoms up, Hold "Safety Meeting" regarding drilling ahead into "Pretty Hill) Max Gas on bottoms up f/ shoe = 690 units
8:30	9:30	RIH slowly f/ shoe to 3487m
9:30	10:00	Light wash & ream f/ 3487m to bottom @ 3507m (run centrifuge, reduce mud wt. f/ 11.4ppg + to 11.4ppg
10:00	10:30	Circ. bottoms up, max gas 3040 units (f/ 3192m), not losing any mud to hole. Mud wt. = 11.4ppg in & out (take SCR's)
10:30	0:00	Drill f/ 3507m to 3563m, rotating 60rpm, 248gpm = 130rpm, (total 190rpm), WOB = 5k > 9k (reduce mud wt. f/11.4ppg + to 11.2ppg)

MAXIMUM GAS:	2331% @ 3529m	**BACKGROUND GAS:**	80 - 150%	**CONNECTION GAS:**	3543%	**TRIP GAS:**	3231%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

21/10/2006

REPORT # 44

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3572m**	**24 HR PROG**	**9m**	**CUM. COSTS**	**$157,435**
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	$410.20

OP's TO 06:00: POOH w/ PDC, DSX516m, RIH w/ 6"x DSX111GJW bit, w/ 4x20 & 3x10 jets, RIH to shoe, slip drlg. line, rig service, cont. RIH, light ream & wash last #2 stands (57m) to bot., bed in bit, drill f/ 3564m to 3578m

REMARKS / FORWARD PLAN: f/ 3564m to 3572m Av. = 1.23mph >> f/ 3572m to 3579m Av. = 1.16mph, Operation = Drilling thru, 3578m @ 06:00hrs, Drill ahead to end of bit life or TD

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1331psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 84 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Fine **PM** Overcast

BIT INFORMATION			
WOB(kLb)	4-13	**JET V(fps)**	73
RPM	190	**H S I**	0.23
BIT NUMBER		**11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code		PDC	
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3564	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		2900	
SPP (calculated)		2530	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 980 @ 720		SCR: 980 @ 680	
SURVEYS			

BHA # 12	
TOOL	**LENGTH**
DSX111GJW	0.20
P100XL Mud Motor	7.25
Float sub	0.52
14 X 4-3/4" DC's	132.38
Dailey Drlg. Jars	8.96
3 X 4-3/4" DC's	28.30
9 X HWDP	85.50
BHA LENGTH (m)	263.11
BHA WEIGHT(kLb)	33.5
STRING WT (kLb)	185.4
HOOK LOAD (kLb)	200.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	205.0
DRAG DOWN (kLb)	190.0
TORQUE ON (Amps/Rel.)	5400
TORQUE OFF (Amps/Rel.)	3600
BULK PRODUCTS	
FUEL ON SITE	16200 Litres
DAILY USAGE	4850 Litres
CUM. FUEL USED	178688 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5202 Bbls
MUD LOSSES	4199 Bbls

MUD PROPERTIES	
Time	2230
Depth (m)	3570
Temp (° C)	51
Mud Type	KCL/PHPA/POL
Density (ppg)	11.20
ECD (ppg)	11.58
Viscosity (sec)	37
PV / YP (cp/lb)	11 / 10
Gells (s/m)	2 / 3
API Filt. (cc)	6.2
Cake (/32")	1
Solids (% Vol)	8.9
Sand (% Vol)	Tr
MBT	8
pH (strip)	9.5
Chlorides (mg/l)	168000
KCL (%)	7.75
PHPA (ppb)	0.75
ALC - 50 (K)	
Circ. Vol. (Bbl)	842
CHEMICAL USAGE	
Barite	40
Caustic Soda	1
Sodium Sulphite	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	0.5	40.0
Coring		
D/O Cement		12.5
Drilling	7.0	384.5
FIT / LOT		4.0
Handle BHA		14.0
Repairs	0.5	68.0
Rig Service	0.5	7.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line	0.5	8.0
Survey		36.5
Test BOP		24.0
Tight hole / Fishing		
Tripping	13.0	216.0
Wait on Cement		24.5
Wash / Ream	1.0	9.5
Well Control		3.5
Well Test		
Wiper Trip		14.5
Wireline		8.5
Other	1.0	84.0
TOTALS	24.0	1049.0
DAILY MUD COSTS		$410.20
CUM. MUD COSTS		**$157,434.55**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Drill F/3563m to 3564m,
0:30	1:00	Circ. and work pipe, Flow check & pump pill
1:00	7:30	POOH 50k over pull f/ 3510m > 3505m, 25k over pull f/ 3505m > 3190m, 15k over pull f/ 3190m > 2998m, Flow check @ shoe (ok)
7:30	8:00	Flush out Mud motor with water, break off bit, clear rig floor
8:00	8:30	Rig repairs
8:30	14:00	Make up Hyc., 6", bit, DSX111GJW (# 7 blade) s.n. = 112300, w/ 4x20 & 3x10 jets, RR mud motor, RIH to shoe, break circ.
14:00	14:30	Slip driling line
14:30	15:00	Rig service
15:00	15:30	Service Top Drive, repair faulty elect. wire for "max torque" in Top drive box
15:30	16:30	Cont. RIH, to 3567m
16:30	17:30	Break circ.,light wash & ream f/ 3507m to bottom @ 3564m (ream thru. 3510m several times to clean up 50k overpull section)
17:30	0:00	Drill f/ 3564m to 3572m, rotating 60rpm, 248gpm = 130rpm (total = 190rpm), WOB = 4k to 13k (av. ROP = 1.23mph)

MAXIMUM GAS:	114% @ 3566m	**BACKGROUND GAS:**	60 - 80%	**CONNECTION GAS:**	%	**TRIP GAS:**	3610%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

22/10/2006

REPORT # 45

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3612m**	**24 HR PROG**	**40m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Drill f/ 3572m to 3620m @ 06:00hrs

REMARKS / FORWARD PLAN: 16000 lit. of fuel was arranged & delivered to rig @ 2200hrs last night, Sunday the 22nd >> Drill ahead, w/ the possibility of POOH for bit

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1331psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

SAFETY
1. Safety meeting
2. Toolbox meeting

WEATHER AM Fine / cold
PM Fine

BIT INFORMATION			
WOB(kLb)	4-14	**JET V(fps)**	73
RPM	197	**H S I**	0.23
BIT NUMBER		**11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code			
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3564	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		2990	
SPP (calculated)		2650	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 980 @ 720		SCR: 980 @ 680	
SURVEYS			

BHA # 12	
TOOL	**LENGTH**
DSX111GJW	0.20
P100XL Mud Motor	7.25
Float sub	0.52
14 X 4-3/4" DC's	132.38
Dailey Drlg. Jars	8.96
3 X 4-3/4" DC's	28.30
9 X HWDP	85.50
BHA LENGTH (m)	263.11
BHA WEIGHT(kLb)	33.5
STRING WT (kLb)	187.2
HOOK LOAD (kLb)	200.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	215.0
DRAG DOWN (kLb)	190.0
TORQUE ON (Amps/Rel.)	6200
TORQUE OFF (Amps/Rel.)	4100
BULK PRODUCTS	
FUEL ON SITE	9850 Litres
DAILY USAGE	22350 Litres
CUM. FUEL USED	201038 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5202 Bbls
MUD LOSSES	4225 Bbls

MUD PROPERTIES	
Time	2245
Depth (m)	3610
Temp (° C)	55
Mud Type	KCL/PHPA/POL
Density (ppg)	11.20
ECD (ppg)	11.70
Viscosity (sec)	37
PV / YP (cp/lb)	12 / 12
Gells (s/m)	2 / 5
API Filt. (cc)	7
Cake (/32")	1
Solids (% Vol)	8.7
Sand (% Vol)	Tr
MBT	7
pH (strip)	9
Chlorides (mg/l)	170000
KCL (%)	7.75
PHPA (ppb)	0.81
ALC - 50 (K)	
Circ. Vol. (Bbl)	838
CHEMICAL USAGE	
AMC Pac- LV	2
Barite	40
Caustic Soda	1
Sodium Sulphite	2

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		40.0
Coring		
D/O Cement		12.5
Drilling	23.5	408.0
FIT / LOT		4.0
Handle BHA		14.0
Repairs		68.0
Rig Service	0.5	7.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line		8.0
Survey		36.5
Test BOP		24.0
Tight hole / Fishing		
Tripping		216.0
Wait on Cement		24.5
Wash / Ream		9.5
Well Control		3.5
Well Test		
Wiper Trip		14.5
Wireline		8.5
Other		84.0
TOTALS	24.0	1073.0
DAILY MUD COSTS		$763.46
CUM. MUD COSTS		**$158,198.01**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	6:00	Drill f/ 3572m to 3578m, rotating 60rpm, 248gpm = 130rpm (total = 190rpm) WOB = 12k to 15k (av. ROP = 1.1mph)
6:00	17:00	Increase Top Drive RPM, Drill f/ 3578m to 3600m, rotating 70rpm, 248gpm =130rpm (total = 200rpm) WOB = 9k to 14k (av. ROP = 2mph)
17:00	17:30	Circ. & Rig service >> (Kaolinitic sandstone f/ 3593m to 3600m, intermittent ROP f/ 4 to 6mph w/ oil)
17:30	0:00	Drill f/ 3600m to 3612m (14k to 15k) rpm 200 (av. ROP = 1.84mph) (max torque on bottom = 6200 >> off bottom = 5600)

MAXIMUM GAS:	101% @ 3582m	**BACKGROUND GAS:**	30 - 60%	**CONNECTION GAS:**	3010%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

23/10/2006

REPORT # 46

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3648m**	**24 HR PROG**	**36m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Drill f/ 3612m to 3641m, circ., 6 stand Wiper trip to 3487, max 65k overpull, f/ 3602 to 3592m, jar free, back ream & clean up hole, RIH to 3630m, wash & ream to 3641m, no fill, drill f/ 3641 to 3656m @ 06:00hrs today

REMARKS / FORWARD PLAN: If DSX111 is pulled, we will RIH tricone, Smith XR30 (537) >>>>>Op. = Drill ahead to 3710m or untill ROP drops below 1mph, then POOH & test BOP

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1382psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 86

SAFETY: 1. Toolbox meeting; 2. Safety meeting

WEATHER AM: Fine
PM: Fine

BIT INFORMATION			
WOB(kLb)	14-17	**JET V(fps)**	73
RPM	200	**H S I**	0.23
BIT NUMBER		**11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code			
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3564	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		3040	
SPP (calculated)		2660	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 990 @ 570		SCR: 1000 @ 580	
SURVEYS			

BHA # 12	
TOOL	**LENGTH**
DSX111GJW	0.20
P100XL Mud Motor	7.25
Float sub	0.52
14 X 4-3/4" DC's	132.38
Dailey Drlg. Jars	8.96
3 X 4-3/4" DC's	28.30
9 X HWDP	85.50
BHA LENGTH (m)	263.11
BHA WEIGHT(kLb)	33.6
STRING WT (kLb)	189.2
HOOK LOAD (kLb)	200.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	205.0
DRAG DOWN (kLb)	185.0
TORQUE ON (Amps/Rel.)	6600
TORQUE OFF (Amps/Rel.)	4100
BULK PRODUCTS	
FUEL ON SITE	19500 Litres
DAILY USAGE	-9650 Litres
CUM. FUEL USED	191388 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5302 Bbls
MUD LOSSES	4262 Bbls

MUD PROPERTIES	
Time	2320
Depth (m)	3648
Temp (° C)	57
Mud Type	KCL/PHPA/POL
Density (ppg)	11.10
ECD (ppg)	11.60
Viscosity (sec)	36
PV / YP (cp/lb)	12 / 12
Gells (s/m)	2 / 4
API Filt. (cc)	6.6
Cake (/32")	1
Solids (% Vol)	7.5
Sand (% Vol)	Tr
MBT	6.5
pH (strip)	9
Chlorides (mg/l)	171000
KCL (%)	7.75
PHPA (ppb)	0.79
ALC - 50 (K)	
Circ. Vol. (Bbl)	846
CHEMICAL USAGE	
AMC Pac- LV	11
Barite	360
Biocide G	1
Caustic Soda	1
PHPA	1
Sodium Sulphite	1
Xanthan Gum	2
KCL	42
Kwikseal F	1

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	0.5	40.5
Coring		
D/O Cement		12.5
Drilling	21.5	429.5
FIT / LOT		4.0
Handle BHA		14.0
Repairs		68.0
Rig Service		7.5
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line		8.0
Survey		36.5
Test BOP		24.0
Tight hole / Fishing		
Tripping		216.0
Wait on Cement		24.5
Wash / Ream		9.5
Well Control		3.5
Well Test		
Wiper Trip	2.0	16.5
Wireline		8.5
Other		84.0
TOTALS	24.0	1097.0
DAILY MUD COSTS		$6,669.02
CUM. MUD COSTS		**$164,867.03**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	18:30	Drill f/ 3612m to 3641m (av. ROP = 1.57mph) >>> (reduce mud wt. f/ 11.2ppg to 11.1ppg)
18:30	19:00	Circ. hole clean
19:00	21:00	6 std Wiper back to 3487m, max 65k over pull f/ 3602m to 3592m, jar free & back ream, intermittent 55k o.p f/ 3554 > 3544 & f/ 3515 > 3506m
21:00	0:00	Drill f/ 3641m to 3648m (av. ROP = 2.33mph) >>> (max 2811 units gas on wiper trip f/ 3192m)

MAXIMUM GAS:	101% @ 3642m	**BACKGROUND GAS:**	20 - 60%	**CONNECTION GAS:**	%	**TRIP GAS:**	3200%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

24/10/2006

REPORT # 47

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3688m**	**24 HR PROG**	**40m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Drill f/ 3648m to 3688m, work tight conn., 2 std. wiper, circ., POOH to shoe, repairs to Top Drive IBOP valve, RIH, drill ahead f/ 3688m @ 06:00hrs

REMARKS / FORWARD PLAN: Drlg. Break f/3671 to 3674m, lost 35bbls, refer to mud report / 4hrs down time for Top Drive / Present Op. = Drill ahead f/ 3688m to 3710m + -

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1382psi**	**BOP TEST**	11/10/2006	**TEST DUE**	25/10

AFD's: 87

SAFETY: 1. Toolbox meeting; 2.

WEATHER AM: Fine
PM: Fine

BIT INFORMATION			
WOB(kLb)	14-17	**JET V(fps)**	73
RPM	175	**H S I**	0.23
BIT NUMBER		**11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code			
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3564	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		2350	
SPP (calculated)		2660	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 990 @ 570		SCR: 1000 @ 580	
SURVEYS			

BHA # 12	
TOOL	**LENGTH**
DSX111GJW	0.20
P100XL Mud Motor	7.25
Float sub	0.52
14 X 4-3/4" DC's	132.38
Dailey Drlg. Jars	8.96
3 X 4-3/4" DC's	28.30
9 X HWDP	85.50
BHA LENGTH (m)	263.11
BHA WEIGHT(kLb)	33.6
STRING WT (kLb)	191.0
HOOK LOAD (kLb)	200.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	216.0
DRAG DOWN (kLb)	185.0
TORQUE ON (Amps/Rel.)	6300
TORQUE OFF (Amps/Rel.)	4100
BULK PRODUCTS	
FUEL ON SITE	42000 Litres
DAILY USAGE	-4900 Litres
CUM. FUEL USED	186488 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5302 Bbls
MUD LOSSES	4349 Bbls

MUD PROPERTIES	
Time	2230
Depth (m)	3687
Temp (° C)	57
Mud Type	KCL/PHPA/POL
Density (ppg)	11.10
ECD (ppg)	11.61
Viscosity (sec)	38
PV / YP (cp/lb)	12 / 13
Gells (s/m)	2 / 5
API Filt. (cc)	6.4
Cake (/32")	1
Solids (% Vol)	7.7
Sand (% Vol)	Tr
MBT	6.5
pH (strip)	9
Chlorides (mg/l)	166000
KCL (%)	7.5
PHPA (ppb)	0.79
ALC - 50 (K)	
Circ. Vol. (Bbl)	824
CHEMICAL USAGE	
Caustic Soda	1
Sodium Sulphite	2
Kwikseal F	1

OPERATION	HRS	CUM
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition		40.5
Coring		
D/O Cement		12.5
Drilling	23.0	452.5
FIT / LOT		4.0
Handle BHA		14.0
Repairs		68.0
Rig Service	0.5	8.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line		8.0
Survey		36.5
Test BOP		24.0
Tight hole / Fishing	0.5	0.5
Tripping		216.0
Wait on Cement		24.5
Wash / Ream		9.5
Well Control		3.5
Well Test		
Wiper Trip		16.5
Wireline		8.5
Other		84.0
TOTALS	24.0	1121.0
DAILY MUD COSTS		$171.89
CUM. MUD COSTS		**$165,038.92**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	8:30	Drill f/ 3648m to 3659m, Varied RPM for ROP optimisation 50-70RPM + 130RPM from motor, (1.3mph), WOB 14-17klbs
8:30	9:00	Rig service >>> (Max 925 units of gas f/ 3192m)
9:00	23:30	Reduce flow rate to 200gpm > Drill f/ 3659m to 3688m, rot. 65rpm, 200gpm = 104rpm, (total rpm = 169), WOB = 12k (av. 2mph)(1mph f/ 18:30hrs)
23:30	0:00	Attempt connection, tight hole, max 65k o.p., work stand & clean up hole

MAXIMUM GAS:	200% @ 3680m	**BACKGROUND GAS:**	20 - 40%	**CONNECTION GAS:**	%	**TRIP GAS:**	677%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

25/10/2006

REPORT # 48

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3700m**	**24 HR PROG**	**12m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Drill f/ 3688m to 3700m, circ. bottoms up, wiper to 3400, RIH, circ., POOH to 1000m, spot 60bbls weighted 14.5ppg mud, cont. POOH, rig up Schlumberger, run #1 = FMS-GR, run @ 04:50hrs

REMARKS / FORWARD PLAN: 2nd log run = BHC-PEX, >>>>> Run logs, pressure test BOP

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1382psi**	**BOP TEST**	11/10/2006	**TEST DUE**	**DUE**

AFD's: 88 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Fine **PM** Fine

BIT INFORMATION			
WOB(kLb)	12-17	**JET V(fps)**	73
RPM	170	**H S I**	0.23
BIT NUMBER		**5**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code			
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3564	
Depth Out (m)		3700	
Total Meters		136	
Hours		81	
ROP		1.7	
Condition Out		2-3-WT-A-X-i-PN-TD	
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		2350	
SPP (calculated)		2740	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 1000 @ 580		SCR: 1000 @ 580	
SURVEYS			

BHA # 12	
TOOL	**LENGTH**
DSX111GJW	0.20
P100XL Mud Motor	7.25
Float sub	0.52
14 X 4-3/4" DC's	132.38
Dailey Drlg. Jars	8.96
3 X 4-3/4" DC's	28.30
9 X HWDP	85.50
BHA LENGTH (m)	263.11
BHA WEIGHT(kLb)	33.6
STRING WT (kLb)	191.6
HOOK LOAD (kLb)	205.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	215.0
DRAG DOWN (kLb)	200.0
TORQUE ON (Amps/Rel.)	5000
TORQUE OFF (Amps/Rel.)	4000
BULK PRODUCTS	
FUEL ON SITE	37250 Litres
DAILY USAGE	4750 Litres
CUM. FUEL USED	191238 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5302 Bbls
MUD LOSSES	4375 Bbls

MUD PROPERTIES	
Time	1730
Depth (m)	3700
Temp (° C)	54
Mud Type	KCL/PHPA/POL
Density (ppg)	11.10
ECD (ppg)	11.63
Viscosity (sec)	39
PV / YP (cp/lb)	13 / 13
Gells (s/m)	2 / 6
API Filt. (cc)	6.4
Cake (/32")	1
Solids (% Vol)	7.6
Sand (% Vol)	Tr
MBT	6.5
pH (strip)	9.5
Chlorides (mg/l)	158000
KCL (%)	8
PHPA (ppb)	0.79
ALC - 50 (K)	
Circ. Vol. (Bbl)	822
CHEMICAL USAGE	
AMC Pac- LV	8
Barite	160
Biocide G	1
Caustic Soda	2
Sodium Sulphite	1
Xanthan Gum	1
Kwikseal F	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	4.0	44.5
Coring		
D/O Cement		12.5
Drilling	8.5	461.0
FIT / LOT		4.0
Handle BHA		14.0
Repairs	5.0	73.0
Rig Service		8.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line		8.0
Survey		36.5
Test BOP		24.0
Tight hole / Fishing		0.5
Tripping	4.5	220.5
Wait on Cement		24.5
Wash / Ream		9.5
Well Control		3.5
Well Test		
Wiper Trip	2.0	18.5
Wireline		8.5
Other		84.0
TOTALS	24.0	1145.0
DAILY MUD COSTS		$3,323.93
CUM. MUD COSTS		**$168,362.85**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Pull #2 stands d.p., back to 3630m, Top Drive mud saver key way leaking in upper double ball valve, "while rotating", RIH to bottom
0:30	1:30	Circ. bottoms up "with out rotation" of Top Drive
1:30	3:00	POOH to shoe to repair Top Drive >> (intermitent 10k to 25k overpull)
3:00	4:30	Repair Top Drive, "mud saver, key way leak in upper double ball valve"
4:30	5:30	RIH, hole good
5:30	6:00	Break circ., wash to bottom, work stand & clean up hole
6:00	14:30	Drill f/ 3688m to 3700.5m (av. ROP = 1.47mph)
14:30	15:30	Circ. bottoms up
15:30	17:00	Flow check, POOH 11 std's to 3400m, max 40k o.p., intermittent 10k to 35k overpull, RIH
17:00	18:30	Circ. bottoms up, cont. untill gas dropped off
18:30	21:00	POOH to shoe
21:00	22:00	Rig repairs, Carry out electrical repairs to the Drawworks Assignment switch
22:00	0:00	POOH to 1868m

MAXIMUM GAS:	89% @ 3692m	**BACKGROUND GAS:**	20 - 40%	**CONNECTION GAS:**	%	**TRIP GAS:**	2956%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

26/10/2006

REPORT # 49

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3700m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Log #1 = FMS-GR, Log #2 = BHC-PEX-GR, rig down, pressure test BOP, RIH to shoe, Repairs, fault find wireing for "extend" operation on Top Drive.

REMARKS / FORWARD PLAN: Pressure test rig floor surface equip., circ., RIH to bottom, Drill 1m of hole to evaluate torque / ROP w/ no mud motor, Circ. bottoms up, POOH to complete logs

PERSONNEL ON SITE: 38

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**1356psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 87	**SAFETY**	1. Safety meeting	**WEATHER AM** Fine
		2. Toolbox meeting	**PM** Fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**RR11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code			
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3700	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 13	
TOOL	**LENGTH**
DSX111GJW	0.20
Float sub	0.91
14 x 4-3/4" dc's	132.38
Dailey Drlg. Jars	8.96
3 x 4-3/4" dc's	28.30
9 x HWDP	85.50
BHA LENGTH (m)	256.25
BHA WEIGHT(kLb)	32.6
STRING WT (kLb)	190.8
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	33900 Litres
DAILY USAGE	3350 Litres
CUM. FUEL USED	176988 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5302 Bbls
MUD LOSSES	4405 Bbls

MUD PROPERTIES	
Time	2130
Depth (m)	3700
Temp (° C)	No Circ
Mud Type	KCL/PHPA/POL
Density (ppg)	11.15
ECD (ppg)	
Viscosity (sec)	41
PV / YP (cp/lb)	13 / 14
Gells (s/m)	2 / 6
API Filt. (cc)	6.2
Cake (/32")	1
Solids (% Vol)	8.8
Sand (% Vol)	Tr
MBT	6.5
pH (strip)	9.5
Chlorides (mg/l)	158000
KCL (%)	8
PHPA (ppb)	0.79
ALC - 50 (K)	
Circ. Vol. (Bbl)	855
CHEMICAL USAGE	

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	0.5	45.0
Coring		
D/O Cement		12.5
Drilling		461.0
FIT / LOT		4.0
Handle BHA	0.5	14.5
Repairs		73.0
Rig Service		8.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line		8.0
Survey		36.5
Test BOP	4.0	28.0
Tight hole / Fishing		0.5
Tripping	3.0	223.5
Wait on Cement		24.5
Wash / Ream		9.5
Well Control		3.5
Well Test		
Wiper Trip	1.0	19.5
Wireline	15.0	23.5
Other		84.0
TOTALS	24.0	1169.0
DAILY MUD COSTS		
CUM. MUD COSTS		**$168,362.85**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	POOH to 1000m
1:00	1:30	Present mud wt. = 11.1ppg, spot 60bbls weighted 14.5ppg mud (490m) equiv. mud wt. = 11.6ppg for hydrostatic @ 3192m
1:30	3:30	Cont. POOH
3:30	4:00	Flush out Mud motor with water, oil, break off bit, clear rig floor
4:00	12:30	Rig up to log, Safety Meeting, run #1 = FMS - GR, run @ 04:50hrs, out @ 12:20hrs (hole in good condition, run to bottom, no fill)
12:30	19:00	Make up tools, Logging, run #2 = BHC-PEX-GR, run @ 12:50hrs, out @ 18:10hrs (loosing 1/2 bbl/ hr of mud to annulus) Rig Down
19:00	23:00	Pull W.B., make up comb. test plug, RIH & set same, press. test BOP, 200psi low & 3500psi high, Conduct Accumulator Test, set W.B.
23:00	0:00	Make up RR, DSX111, PDC, RIH to 256m

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %

SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids

DAILY DRILLING REPORT

27/10/2006

REPORT # 50

WELL	**Glenaire 01 ST1**	**24:00 DEPTH**	**3701m**	**24 HR PROG**	**1m**	**CUM. COSTS**	**$198,404**
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	$30,041.05

OP's TO 06:00: Shoe, bots.up = 1670 units, RIH to 3643m, W/R to bot., drill f/ 3700m > 3701m, circ. bot's up, flow check, well flowing, wt. up f/ 11.1ppg to 12.1ppg, flow check, slight flow, circ. bottoms up, 954 units to surface, cont. circ.

REMARKS / FORWARD PLAN: 1300hrs = bottoms up, noticed small pieces of shale type cuttings over the shakers >> Operation =circ. with 12.1ppg in & out of hole

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**870psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 88 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Showers **PM** Rain

BIT INFORMATION			
WOB(kLb)	8-10	**JET V(fps)**	73
RPM	75	**H S I**	0.25
BIT NUMBER		**RR 11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code			
Serial Number		112300	
T.F.A.(")			
Depth In (m)		3700	
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out		2-3-WT-A-X-i-PN-TD	
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		2700	
SPP (calculated)		2930	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

BHA # 13	
TOOL	**LENGTH**
DSX111GJW	0.20
Float sub	0.91
14 x 4-3/4" dc's	132.38
Dailey Drlg. Jars	8.96
3 x 4-3/4" dc's	28.30
9 x HWDP	85.50
BHA LENGTH (m)	256.25
BHA WEIGHT(kLb)	32.1
STRING WT (kLb)	187.5
HOOK LOAD (kLb)	202.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	220.0
DRAG DOWN (kLb)	190.0
TORQUE ON (Amps/Rel.)	7993
TORQUE OFF (Amps/Rel.)	7560
BULK PRODUCTS	
FUEL ON SITE	31550 Litres
DAILY USAGE	2350 Litres
CUM. FUEL USED	179338 Litres
BARITES ON SITE	50 kg
BARITES USED	250 kg
MUD MIXED	5522 Bbls
MUD LOSSES	4602 Bbls

MUD PROPERTIES	
Time	0130
Depth (m)	3701
Temp (° C)	45
Mud Type	KCL/PHPA/POL
Density (ppg)	12.10
ECD (ppg)	12.77
Viscosity (sec)	41
PV / YP (cp/lb)	14 / 18
Gells (s/m)	3 / 6
API Filt. (cc)	6.8
Cake (/32")	1
Solids (% Vol)	16
Sand (% Vol)	Tr
MBT	7
pH (strip)	8.5
Chlorides (mg/l)	140000
KCL (%)	10
PHPA (ppb)	0.61
ALC - 50 (K)	
Circ. Vol. (Bbl)	689
CHEMICAL USAGE	
Barite	1184
Biocide G	1
Caustic Soda	1
NaCl	48
Xanthan Gum	8
KCL	252
Kwikseal F	20
CaCO3 UF	192
CaCO3 F	192
CaCO3 M	384

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		36.0
Cementing		8.5
Circ & Condition	1.5	46.5
Coring		
D/O Cement		12.5
Drilling	1.0	462.0
FIT / LOT		4.0
Handle BHA		14.5
Repairs	1.0	74.0
Rig Service		8.0
Rig up Csg./ Cmt.		11.0
Run Casing		32.5
Safety		2.0
Slip/Cut Drill Line	1.0	9.0
Survey		36.5
Test BOP	1.0	29.0
Tight hole / Fishing		0.5
Tripping		223.5
Wait on Cement		24.5
Wash / Ream	1.0	10.5
Well Control	12.5	16.0
Well Test		
Wiper Trip	5.0	24.5
Wireline		23.5
Other		84.0
TOTALS	24.0	1193.0
DAILY MUD COSTS		$30,041.05
CUM. MUD COSTS		**$198,403.90**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:30	Cont. RIH to 1200m
1:30	2:30	Slip & cut drilling line
2:30	3:00	Circ. out the 60bbl x 14.5ppg pill, return to slug tank
3:00	5:30	Cont. RIH to shoe
5:30	6:30	Repairs to Top Drive, fault find electrical wireing for "extend" operation, found & repaired damaged earth wire
6:30	7:30	Pressure test rig floor surface equipment, 200psi low x 5 min. & 5000psi high x 10 minutes
7:30	8:30	Circ. out gas f/ shoe, >>> (max 1670 units on bottoms up)
8:30	9:30	Cont. RIH to 3652m
9:30	10:30	Wash & ream f/ 3652m to 3700m, while taking torque values with Top Drive off bottom (off bottom RPM = 75, torque =7560 ft/lbs, w/ 2300psi)
10:30	11:30	Drill f/ 3700m to 3701m, WOB = 10k, RPM = 75, torque = 7993 ft/lbs w/ 2400psi, (low gear) >>> (max 3354 units f/ 3192)
11:30	21:00	Circ. bot's up 2750 units f/ bottom, slight flow, wt. up f/ 11.1ppg to 11.4ppg, > 15:30hrs, flow increased, wt. up f/ 11.4ppg to11.8ppg @ 19:30hrs
21:00	0:00	Low vol. in active tank, trans. 60bbls 11.8ppg LCM to active, reduce pump rate, build volume in pre-mix tank, transfer to active, wt. up to 12.1ppg

MAXIMUM GAS:	3354% @ 3700m	**BACKGROUND GAS:**	12%	**CONNECTION GAS:**	2700%	**TRIP GAS:**	1617%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

28/10/2006

REPORT # 25

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Circ. & wieght up mud f/ 11.1ppg to 12.1ppg, additional Barite arrived, cont. wt. up f/ 12.1ppg to 12.4ppg, stop pump for 10 min., circ. bot's up, 315 units gas, spot 15.3ppg f/ 3701 to 3450m, minor losses, flow check, POOH

REMARKS / FORWARD PLAN: Note, daylight savings ajustment (1 hr ahead)>> Hole taking correct amount of fluid, slightly over >> Operation = Cont. POOH, @ BHA @ 06:00hrs, complete log, wiper trip

PERSONNEL ON SITE: 37

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**717psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 65 **SAFETY** 1. Toolbox meeting 2.

WEATHER AM Over cast **PM** Over cast

BIT INFORMATION			
WOB(kLb)	1	**JET V(fps)**	46
RPM	40	**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)	210		
AV - DP (fpm)	217		
AV - DC (fpm)	383		
SPP (psi)	1820		
SPP (calculated)	2620		
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 980 @ 580		SCR: 980 @ 580	
SURVEYS			

BHA # 13	
TOOL	**LENGTH**
DSX111GJW	0.20
Float sub	0.91
14 x 4-3/4" dc's	132.38
Drilling Jars	8.96
3 x 4-3/4" dc's	28.30
9 x HWDP	85.50
BHA LENGTH (m)	256.25
BHA WEIGHT(kLb)	31.9
STRING WT (kLb)	186.5
HOOK LOAD (kLb)	202.0
WT BELOW JARS (kLb)	16.6
DRAG UP (kLb)	220.0
DRAG DOWN (kLb)	192.0
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	36700 Litres
DAILY USAGE	-5150 Litres
CUM. FUEL USED	62507 Litres
BARITES ON SITE	-203200 kg
BARITES USED	114600 kg
MUD MIXED	1300 Bbls
MUD LOSSES	1135 Bbls

MUD PROPERTIES	
Time	2230
Depth (m)	3701
Temp (° C)	46
Mud Type	KCL/PHPA/POL
Density (ppg)	12.40
ECD (ppg)	13.13
Viscosity (sec)	42
PV / YP (cp/lb)	15 / 19
Gells (s/m)	4 / 6
API Filt. (cc)	7.3
Cake (/32")	2
Solids (% Vol)	17.5
Sand (% Vol)	Tr
MBT	7
pH (strip)	8.5
Chlorides (mg/l)	140000
KCL (%)	10
PHPA (ppb)	0.61
ALC - 50 (K)	
Circ. Vol. (Bbl)	791
CHEMICAL USAGE	
Barite	332
Xanthan Gum	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		
Circ & Condition	20.0	37.5
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs	1.0	65.0
Rig Service		3.5
Rig up Csg./ Cmt.		
Run Casing		
Safety		1.0
Slip/Cut Drill Line		4.5
Survey		10.0
Test BOP		11.0
Tight hole / Fishing		0.5
Tripping		116.5
Wait on Cement		
Wash / Ream		8.5
Well Control	3.0	18.0
Well Test		
Wiper Trip		10.5
Wireline		15.0
Other		55.0
TOTALS	24.0	594.0
DAILY MUD COSTS		$3,081.65
CUM. MUD COSTS		**$102,415.52**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Cont. circ., wt. up w/ calcium carbonate to 12.1ppg in & out while building mud volume
1:00	2:00	Shut down pump, work string for 15 minutes while observing well, slight flow
2:00	2:30	Circ. bottoms up, 954units gas
2:30	6:30	Cont. circ. w/ 12.1ppg mud, wait on more weight material to arrive @ rig
6:30	7:00	Shut down pump, work string for 10 minutes while observing well, slight flow
7:00	8:00	Circ. bottoms up = 124 units gas
8:00	8:30	Shut down pump, work string for 10 minutes while observing well, slight flow
8:30	9:30	Circ. bottoms up = 416 units gas
9:30	10:00	Shut down pump, work string for 15 minutes while observing well, slight flow
10:00	11:00	Circ. bottoms up =393 units gas
11:00	11:30	Shut down pump, work string for 30 minutes while observing well, slight flow
11:30	13:30	Circ. bottoms up = 470 units gas
13:30	14:00	Shut down pump, work string for 30 minutes while observing well, NO FLOW, well static
14:00	15:30	Circ. bottoms up =220 units gas
15:30	16:00	Shut down pump, work string for 30 minutes while observing well, NO FLOW, well static
16:00	17:00	Circ. bottoms up = 212 units gas
17:00	17:30	Shut down pump, work string for 30 minutes while observing well, NO FLOW, well static
17:30	22:30	Weight up f/ 12.1ppg to 12.4ppg, stop pump for 10 min., circ. bot's up, 315 units gas, spot 15.3ppg mud f/ 3701m back to 3450m, minor losses
22:30	23:00	Flow check, slight flow, then stopped
23:00	0:00	Attempt to break top conn., no go, Top Drive load nut overheating, causing no rotation, while hot, cooled down, now ok

MAXIMUM GAS:	960% @ 3700m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

29/10/2006

REPORT # 26

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: POOH, rig & run log, rig down, RIH to shoe, circ. bot's up, 352 units gas, slip drlg. line, rig service, RIH, wash & ream last 10 std's to bottom to circ. out weighted 15.3ppg mud, circ. bottoms up, 3670 units gas to surface

REMARKS / FORWARD PLAN: POH to run 4-1/2" liner & hanger

PERSONNEL ON SITE: 39

LAST CASING	7 "	**SET AT**	2998m	**LOT**	13.8ppg	**MAASP**	**614psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 66

SAFETY: 1. Safety meeting; 2. Toolbox meeting

WEATHER AM: Overcast
PM: Overcast

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	46
RPM	40	**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)		210	
AV - DP (fpm)		217	
AV - DC (fpm)		383	
SPP (psi)		1000	
SPP (calculated)		2570	
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE	40	**RATE**	60
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SCR: 1200 @ 860		SCR: 1200 @ 860	
SURVEYS			

BHA # 13	
TOOL	**LENGTH**
DSX111GJW	0.20
Float sub	0.91
14 x 4-3/4" dc's	132.38
Drilling Jars	8.96
3 x 4-3/4" dc's	28.30
9 x HWDP	85.50
BHA LENGTH (m)	256.25
BHA WEIGHT(kLb)	31.8
STRING WT (kLb)	185.8
HOOK LOAD (kLb)	202.0
WT BELOW JARS (kLb)	16.5
DRAG UP (kLb)	220.0
DRAG DOWN (kLb)	190.0
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	
BULK PRODUCTS	
FUEL ON SITE	24350 Litres
DAILY USAGE	12350 Litres
CUM. FUEL USED	74857 Litres
BARITES ON SITE	-203200 kg
BARITES USED	114600 kg
MUD MIXED	1300 Bbls
MUD LOSSES	1174 Bbls

MUD PROPERTIES	
Time	0100
Depth (m)	3701
Temp (° C)	39
Mud Type	KCL/PHPA/POL
Density (ppg)	12.60
ECD (ppg)	13.32
Viscosity (sec)	41
PV / YP (cp/lb)	14 / 19
Gells (s/m)	4 / 6
API Filt. (cc)	7.8
Cake (/32")	2
Solids (% Vol)	18.8
Sand (% Vol)	Tr
MBT	9
pH (strip)	8
Chlorides (mg/l)	136000
KCL (%)	10
PHPA (ppb)	0.61
ALC - 50 (K)	
Circ. Vol. (Bbl)	800
CHEMICAL USAGE	
Caustic Soda	2
Kwikseal F	3

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		
Circ & Condition	2.5	40.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs		65.0
Rig Service	0.5	4.0
Rig up Csg./ Cmt.	0.5	0.5
Run Casing		
Safety		1.0
Slip/Cut Drill Line	0.5	5.0
Survey		10.0
Test BOP		11.0
Tight hole / Fishing		0.5
Tripping	5.0	121.5
Wait on Cement		
Wash / Ream	1.0	9.5
Well Control		18.0
Well Test		
Wiper Trip	6.5	17.0
Wireline	6.5	21.5
Other	1.0	56.0
TOTALS	24.0	618.0
DAILY MUD COSTS		$266.97
CUM. MUD COSTS		**$102,682.49**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	POOH, flow check every 5 std's, intermittent tight hole f/ 3672m back to 3250m, max o.p. = 65k,
2:00	3:00	Daylight Savings ajustment, >>>>>>>>>>>>>>>>>> Move clocks # 1 hour ahead <<<<<<<<<<<<<<<<<<<
3:00	7:30	Cont. POOH, lay out # 1 stand d.c.'s, lay out PDC bit, make up tricone bit, w/ no jets, rack in Mast
7:30	14:00	Flow check, well static, Rig up, Safety Meeting, make up DLT @ 08:00hrs, run same @ 08:50hrs, tools out @ 12:50hrs, rig down Schlumb.
14:00	18:00	RIH w/ tricone bit w/ no jets to shoe
18:00	19:30	Circ. bottoms up, 352 units gas to surface
19:30	20:00	Make up x-o's & torque up same on Baker cement head
20:00	20:30	Slip drilling line
20:30	21:00	Rig service
21:00	22:00	RIH f/2992m to 3394m
22:00	23:00	Break circ. wash & ream last 10 std's to bottom (f/ 3394m to 3701m) to circ. out weighted 15.3ppg pill mud
23:00	0:00	Circ. bottoms up

MAXIMUM GAS:	3670% @ 3700m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	1480%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**	Dave Horner	**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

30/10/2006

REPORT # 27

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Circ. bot's up, 3670 units gas, well flowing, spot 30bbls 14.5ppg mud on bot. ok, POOH, rig/run 4-1/2" liner, Baker Hanger & 74 stds d.p. to shoe, circ. bot's up, 480 units gas, cont. RIH to 3550m circ. bot's up

REMARKS / FORWARD PLAN: Run 4-1/2 liner & cement same, sting out of Hanger, circ. bottoms up

PERSONNEL ON SITE: 36

LAST CASING	7 "	**SET AT**	2998m	**LOT**	9.1ppg	**MAASP**	**-1815psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 67

SAFETY: 1. Safety meeting; 2. Toolbox meeting

WEATHER AM: Fine

PM: Fine

BIT INFORMATION

WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)		590	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	180.0
WT BELOW JARS (kLb)	
DRAG UP (kLb)	190.0
DRAG DOWN (kLb)	160.0
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	19500 Litres
DAILY USAGE	4850 Litres
CUM. FUEL USED	79707 Litres
BARITES ON SITE	-219700 kg
BARITES USED	131100 kg
MUD MIXED	1418 Bbls
MUD LOSSES	1203 Bbls

MUD PROPERTIES	
Time	1400
Depth (m)	3701
Temp (° C)	No Circ
Mud Type	KCL/PHPA/POL
Density (ppg)	12.60
ECD (ppg)	
Viscosity (sec)	42
PV / YP (cp/lb)	14 / 20
Gells (s/m)	4 / 6
API Filt. (cc)	7.6
Cake (/32")	2
Solids (% Vol)	18.6
Sand (% Vol)	Tr
MBT	9
pH (strip)	8
Chlorides (mg/l)	136000
KCL (%)	10
PHPA (ppb)	0.61
ALC - 50 (K)	
Circ. Vol. (Bbl)	787
CHEMICAL USAGE	
Barite	660
Biocide G	1
Defoamer	4
Xanthan Gum	3

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		
Circ & Condition	3.0	43.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs	1.0	66.0
Rig Service	0.5	4.5
Rig up Csg./ Cmt.	1.0	1.5
Run Casing	12.0	12.0
Safety		1.0
Slip/Cut Drill Line		5.0
Survey		10.0
Test BOP		11.0
Tight hole / Fishing		0.5
Tripping	6.0	127.5
Wait on Cement		
Wash / Ream		9.5
Well Control	0.5	18.5
Well Test		
Wiper Trip		17.0
Wireline		21.5
Other		56.0
TOTALS	24.0	642.0
DAILY MUD COSTS		$7,260.70
CUM. MUD COSTS		**$109,943.19**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Cont. circ. bottoms up
0:30	1:00	Flow check (well flowing)
1:00	3:30	Circ.out gas 3670 units, Mix 30 bbl.14.5ppg.& pill and spot on bottom
3:30	9:30	Flow check and POOH w/ flow checks 1,3,5,10,15 stands out and @ shoe (max o.p.= 60k)
9:30	10:30	Rig up to run 4-1/2" csg, Safety meeting
10:30	22:30	Pick up jnt. #1, baker lock shoe, & next # 2 jnt's, run 65 jnt's x 4-1/2" x P110 x 13.5 lb/ft csg., Baker Hanger & 74 std's 3-1/2" drill pipe to shoe
22:30	23:00	Rig service
23:00	0:00	Repair consignment # 3 on drillers control panel

MAXIMUM GAS:	480% @ 2954m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Briam Marriott/RayEll	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

31/10/2006

REPORT # 28

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Run 4-1/2" liner, attempt to set hanger, no success, sit liner on bottom, cmt. same, sting out, circ. bottoms up, well flowing, spot 50bbls 14.4ppg on bot., slight flow, shut in & monitor well, no press., open annular, POOH

REMARKS / FORWARD PLAN: POOH & run CBL

PERSONNEL ON SITE: 41

LAST CASING	7 "	**SET AT**	2998m	**LOT**	9.1ppg	**MAASP**	**-1815psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 68 **SAFETY** 1. Toobox meeting 2.

WEATHER AM Fine **PM** Fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	15650 Litres
DAILY USAGE	3850 Litres
CUM. FUEL USED	83557 Litres
BARITES ON SITE	-230300 kg
BARITES USED	141700 kg
MUD MIXED	1513 Bbls
MUD LOSSES	1398 Bbls

MUD PROPERTIES	
Time	1200
Depth (m)	3701
Temp (° C)	35
Mud Type	KCL/PHPA/POL
Density (ppg)	12.60
ECD (ppg)	
Viscosity (sec)	46
PV / YP (cp/lb)	16 / 22
Gells (s/m)	5 / 7
API Filt. (cc)	8.6
Cake (/32")	2
Solids (% Vol)	18.6
Sand (% Vol)	Tr
MBT	9
pH (strip)	8
Chlorides (mg/l)	136000
KCL (%)	10
PHPA (ppb)	0.42
ALC - 50 (K)	
Circ. Vol. (Bbl)	717
CHEMICAL USAGE	
Ausben	2
Barite	424
Soda Ash	2
Xanthan Gum	2

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing	1.5	1.5
Circ & Condition	11.0	54.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs	0.5	66.5
Rig Service		4.5
Rig up Csg./ Cmt.	2.5	4.0
Run Casing	5.0	17.0
Safety		1.0
Slip/Cut Drill Line		5.0
Survey		10.0
Test BOP		11.0
Tight hole / Fishing		0.5
Tripping		127.5
Wait on Cement		
Wash / Ream		9.5
Well Control	3.5	22.0
Well Test		
Wiper Trip		17.0
Wireline		21.5
Other		56.0
TOTALS	24.0	666.0
DAILY MUD COSTS		$4,254.40
CUM. MUD COSTS		**$114,197.59**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	0:30	Cont.repairing control panel
0:30	2:30	Circ. bottoms up f/ shoe, recipicate pipe, 480 units gas to surface
2:30	4:00	Cont. RIH stands d.p. to 3550m
4:00	7:30	Circ. bottoms up, recipicate pipe, 970 units gas to surface
7:30	8:00	RIH to 3608m
8:00	8:30	Circ. up weighted pill into 7" shoe
8:30	9:00	RIH, set shoe @ 3694m
9:00	12:30	Circ. bottoms up, 118 units gas to surface
12:30	15:00	Pick up "Baker" cement head, make up Haliburton equip., drop ball, pump down, attempt to shear & set slips on hanger, no success
15:00	16:30	Set liner on bot., shoe @ 3701m, attempt to release setting tool, no succes, re-attempt by increasing press. to 3000psi, ok,
16:30	17:30	Shear out ball seat, @ 3790psi, ok, circ. hole
17:30	18:00	Circ. 80spm @ 1450psi, & hold safety meeting, pump tuned spacer @ 13ppg
18:00	18:30	Mix & pump 42bbls (143sx) lead @ 13.5ppg, followed by 22bbls (105sx)Tail @ 15.6ppg, (pumped 64bbls, only 13bbls returned)
18:30	19:00	Displace w/ 101bbls mud, bump w/ 1400psi, increase to 3000psi, good test, retuned 1.25bbls, float held (displace 101bbls, only 18bbls returned)
19:00	19:30	Equalise press. on RSB, pull RSB f/ Hanger, ok, circ. clean
19:30	20:30	Circ. bottoms up, flush top of Hanger, nil cement, lay out cmt. head
20:30	0:00	Well flowing, spot 50bbls 14.4ppg @ top of hanger, observe, slight flow, shut in on annular @ 21:30hrs & monitor well

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

1/11/2006

REPORT # 29

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00: Well shut in to allow cmt. To set up, check Annulus press., ok, open Annular, well static, POOH, rig up Schlumb., rig down Schlumb., RIH open ended D.P. to 2793m, circ. & monitor well, rig up Schlumb., run C.B.L.

REMARKS / FORWARD PLAN: Complete CBL run, circ. bottoms up, POOH laying down tubulars, leaving 1000m in hole, re-evaluate forward plan

PERSONNEL ON SITE: 36

LAST CASING	7 "	**SET AT**	2998m	**LOT**	9.1ppg	**MAASP**	**-1712psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 69 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Fine **PM** Fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)		500	
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	40400 Litres
DAILY USAGE	1719 Litres
CUM. FUEL USED	85276 Litres
BARITES ON SITE	-230900 kg
BARITES USED	142300 kg
MUD MIXED	1513 Bbls
MUD LOSSES	1501 Bbls

MUD PROPERTIES	
Time	21.45
Depth (m)	2793
Temp (° C)	41
Mud Type	KCL/PHPA/POL
Density (ppg)	12.40
ECD (ppg)	
Viscosity (sec)	41
PV / YP (cp/lb)	13 / 22
Gells (s/m)	4 / 6
API Filt. (cc)	12.4
Cake (/32")	2
Solids (% Vol)	17.9
Sand (% Vol)	Tr
MBT	9
pH (strip)	8
Chlorides (mg/l)	108000
KCL (%)	7.5
PHPA (ppb)	0.42
ALC - 50 (K)	
Circ. Vol. (Bbl)	754
CHEMICAL USAGE	
Barite	24

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		1.5
Circ & Condition	11.0	65.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs		66.5
Rig Service		4.5
Rig up Csg./ Cmt.		4.0
Run Casing		17.0
Safety		1.0
Slip/Cut Drill Line	1.0	6.0
Survey		10.0
Test BOP		11.0
Tight hole / Fishing		0.5
Tripping	7.5	135.0
Wait on Cement		
Wash / Ream		9.5
Well Control	3.0	25.0
Well Test		
Wiper Trip		17.0
Wireline	1.5	23.0
Other		56.0
TOTALS	24.0	690.0
DAILY MUD COSTS		$196.80
CUM. MUD COSTS		**$114,394.39**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Cont. w/ well shut in to let cement to set up
2:00	6:00	Open HCR & Hydril, Well static, POOH to run CBL
6:00	7:00	Rig up Schlumberger, change of operation, rig down schlumb.
7:00	10:30	RIH open ended d.p. to 2793m
10:30	11:30	Slip & cut drilling line
11:30	14:30	Take SCR's, circ. bottoms up, 225 units gas, 35spm @ 500psi w/ 12.5ppg mud in the hole, monitor well, 4bbl loss f/ bot's up, "wait on orders"
14:30	15:00	Shut down pump, monitor well, nil losses, well static
15:00	18:30	Circ. bot's up @ 32 spm @ 500psi, constant 45 units gas, no increase on bottoms up, 3bbls loss f/ 1500hrs (Schlumb. prepare equip.for CBL run)
18:30	19:00	Shut down pump, monitor well, nil losses, well static
19:00	23:30	Cont. circ. @ 35spm @ 500psi (Schlumb.cont. rig up, replace BOP rams, set up pressure equip., re-head cable socket)
23:30	0:00	Rig up Schlumberger

MAXIMUM GAS:	225% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott/Ray Ell	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

2/11/2006

REPORT # 30

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	**$116,497**
RIG	Ensign # 32	**FORMATION**	Pretty Hill	**PTD**	3945m	**DAILY COSTS**	$2,102.95
OP's TO 06:00	Compete CBL run, rig down Schlumb., circ. bottoms up, POOH sideways, clear Mast of excess tubulars, cont. POOH sideways						
REMARKS / FORWARD PLAN:	Aprox 35 std's left to lay out. >>>>Complete POOH sideways, change to 2-7/8" rams, pressure test same, rig & run 2-7/8" tubing to 2876m					**PERSONNEL ON SITE:**	**33**
LAST CASING	2 7/8"	**SET AT**	2998m	**LOT**	14.0ppg	**MAASP**	**810psi**
BOP TEST	26/10/2006	**TEST DUE**	09/11				
AFD's: 70	**SAFETY**	1. Toolbox meeting				**WEATHER AM**	Fine
		2.				**PM**	Fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	36850 Litres
DAILY USAGE	3550 Litres
CUM. FUEL USED	88826 Litres
BARITES ON SITE	-236300 kg
BARITES USED	147700 kg
MUD MIXED	1513 Bbls
MUD LOSSES	1534 Bbls

MUD PROPERTIES	
Time	2200
Depth (m)	2793
Temp (° C)	39
Mud Type	KCL/PHPA/POL
Density (ppg)	12.40
ECD (ppg)	
Viscosity (sec)	40
PV / YP (cp/lb)	11 / 21
Gells (s/m)	4 / 5
API Filt. (cc)	12.8
Cake (/32")	2
Solids (% Vol)	18
Sand (% Vol)	Tr
MBT	9
pH (strip)	8
Chlorides (mg/l)	107000
KCL (%)	7.5
PHPA (ppb)	0.42
ALC - 50 (K)	
Circ. Vol. (Bbl)	721
CHEMICAL USAGE	
Barite	216
Biocide G	1
Defoamer	1

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		1.5
Circ & Condition	4.0	69.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs	1.0	67.5
Rig Service		4.5
Rig up Csg./ Cmt.		4.0
Run Casing		17.0
Safety		1.0
Slip/Cut Drill Line		6.0
Survey		10.0
Test BOP		11.0
Tight hole / Fishing		0.5
Tripping	10.0	145.0
Wait on Cement		
Wash / Ream		9.5
Well Control	0.5	25.5
Well Test		
Wiper Trip		17.0
Wireline	8.5	31.5
Other		56.0
TOTALS	24.0	714.0
DAILY MUD COSTS		$2,102.95
CUM. MUD COSTS		**$116,497.34**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	1:00	Rig up Schlumb.
1:00	1:30	Run CBL, attempt to release tool, no success
1:30	2:30	Rig down lubricator, install head catcher release hose (Schlumb. forgot to install hose)
2:30	5:00	Run CBL to 3662m (top of float collar @ 3676m)
5:00	6:00	Correlate tool & log up f/ 3657m
6:00	8:30	Log up with CBL
8:30	9:30	Lay out lubricator & tools, rig down
9:30	13:00	Circ. bottoms up, w/ 12.4ppg mud in & out, 3035 units gas to surface, stop pump, slight flow, circ.while mixing pill.
13:00	13:30	Stop circ., observe annulus, flowing, spot 40bbls x 14ppg mud with 0.2% biocide @ 2793m, observe well, hole static
13:30	21:00	POOH sideways to 40 std's in hole, RIH std's d.p. f/ Mast to clear excess d.p. to 2037m
21:00	21:30	Flow check, flowing, mix & pump 40bbls x 14.7ppg pill @ 2037m, observe well, hole static
21:30	0:00	Cont. POOH sideways

MAXIMUM GAS: % @ m	**BACKGROUND GAS:** %	**CONNECTION GAS:** %	**TRIP GAS:** %
SUPERVISOR: Brian Marriott	**GEOLOGIST:**	**MUD CO:** RMN Drilling Fluids	

DAILY DRILLING REPORT

3/11/2006

REPORT # 31

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**	**3701m**	**24 HR PROG**		**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty hill	**PTD**	3945m	**DAILY COSTS**	$2,047.10

OP's TO 06:00 Complete POOH sideways, retreive wear bushing, install 2-7/8" rams, press. test BOP, rig & run 2-7/8" tbg., set packer & Hanger, pressure test to 2000psi, raise hanger, circ. annulus to Brine

REMARKS / FORWARD PLAN: circ. hole to Brine, hang off tubing hanger, remove BOP, install Xmas Tree

PERSONNEL ON SITE: 33

LAST CASING	2 7/8"	**SET AT**	2998m	**LOT**	14.0ppg	**MAASP**	**758psi**	**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 71 **SAFETY** 1. Toolbox meeting 2. Safety meeting

WEATHER AM Overcast
PM Overcast

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER			
Size (in)			
Make			
Type			
IADC Code			
Serial Number			
T.F.A.(")			
Depth In (m)			
Depth Out (m)			
Total Meters			
Hours			
ROP			
Condition Out			
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	34000 Litres
DAILY USAGE	2850 Litres
CUM. FUEL USED	91676 Litres
BARITES ON SITE	-239100 kg
BARITES USED	150500 kg
MUD MIXED	1513 Bbls
MUD LOSSES	1534 Bbls

MUD PROPERTIES	
Time	2030
Depth (m)	RIH
Temp (° C)	No Circ
Mud Type	KCL/PHPA/POL
Density (ppg)	12.50
ECD (ppg)	
Viscosity (sec)	41
PV / YP (cp/lb)	11 / 22
Gells (s/m)	4 / 6
API Filt. (cc)	13
Cake (/32")	2
Solids (% Vol)	18.8
Sand (% Vol)	Tr
MBT	9
pH (strip)	8
Chlorides (mg/l)	107000
KCL (%)	7.5
PHPA (ppb)	0.42
ALC - 50 (K)	
Circ. Vol. (Bbl)	686
CHEMICAL USAGE	
Barite	112
Biocide G	2
KCL	40

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		1.5
Circ & Condition	1.0	70.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs		67.5
Rig Service		4.5
Rig up Csg./ Cmt.		4.0
Run Casing	11.5	28.5
Safety	0.5	1.5
Slip/Cut Drill Line		6.0
Survey		10.0
Test BOP	3.0	14.0
Tight hole / Fishing		0.5
Tripping	7.5	152.5
Wait on Cement		
Wash / Ream		9.5
Well Control	0.5	26.0
Well Test		
Wiper Trip		17.0
Wireline		31.5
Other		56.0
TOTALS	24.0	738.0
DAILY MUD COSTS		$2,047.10
CUM. MUD COSTS		**$118,544.44**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	2:00	Cont. POOH sideways to 40 std's in hole, RIH BHA & HWDP f/ Mast to 1564m
2:00	2:30	Observe well, slight flow, close Annular for 15 min., nil pressure build up, open Annular, still slight flow
2:30	3:30	Circ. bottoms up f/ 1564m, spot 40bbls 14.8ppg mud, observe well, hole static
3:30	9:00	POOH sideways, all tubulars layed out. (lost a total of 20bbls mud in 20 hrs while laying out sideways)(av. 1bbl/hr)
9:00	9:30	Make up combination tool, RIH & retrieve wear bushing (rig up to run 2-7/8" Tbg.)
9:30	11:00	Flush BOP w/ water, close "Blind Rams", change out rams f/ 3-1/2" to 2-7/8", open Blind rams, "Well Static"
11:00	12:00	Make up Tbg. Hanger on 2-7/8" Tbg., run & set same, press. Test rams 200psi low, 2000psi high, Annular 1000psi, pull & lay out Tbg. Hanger
12:00	12:30	Safety Meeting & Toolbox talk w/ both crews. Flow check, well static. "HAND RIG OVER TO PRODUCTION"
12:30	13:00	M/up completion assy as follows : 2 7/8" re-entry guide, 2 7/8"Owen under balancing disk 4000 psi nominal burst, 2 7/8 X-nipple,
13:00	14:00	1 jnt 2 7/8" 6.4 # J-55 EUE tbg , 7" x 2 7/8" Baker Oil Tool Hornet mechanical set pkr, 2 7/8" EUE L-10 on/off connector w/ 2.31" X profile
14:00	0:00	Rih completion assy on 2- 7/8" 6.4 # J-55 EUE tbg from cat walk. Torque set at 2060 ft/lb. Tbg filled with 3% KCL brine every jnt

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY DRILLING REPORT

4/11/2006

REPORT # 32

WELL	**Glenaire 01 ST 01**	**24:00 DEPTH**		**24 HR PROG**	**-3701m**	**CUM. COSTS**	
RIG	Ensign # 32	**FORMATION**	Pretty hill	**PTD**	3945m	**DAILY COSTS**	

OP's TO 06:00 Cont. run 2-7/8" tbg, set packer @ 2864.37, press. test, circ. annuluss to brine, land Tbg. Hanger, nipple up & press. Test Xmas tree, RIG RELEASED @ 1500hrs, commence to rig down

REMARKS / FORWARD PLAN: rig down, rig & prepare to lower Mast

PERSONNEL ON SITE: 30

LAST CASING	2 7/8"	**SET AT**	2876m	**LOT**	14.0ppg	**MAASP**		**BOP TEST**	26/10/2006	**TEST DUE**	09/11

AFD's: 72 **SAFETY** 1. Toolbox meeting 2. **WEATHER AM** Overcast **PM** Fine

BIT INFORMATION			
WOB(kLb)		**JET V(fps)**	
RPM		**H S I**	
BIT NUMBER		**RR 11**	
Size (in)		6.0	
Make		Hyc	
Type		DSX111	
IADC Code		PDC	
Serial Number		112300	
T.F.A.(")		1.457	
Depth In (m)		3700	
Depth Out (m)		3701	
Total Meters		1	
Hours		1	
ROP		1.0	
Condition Out		2 3 WT A X i PN TD	
FLOW DATA			
CIRC. RATE (gpm)			
AV - DP (fpm)			
AV - DC (fpm)			
SPP (psi)			
SPP (calculated)			
PUMP #1		**PUMP #2**	
8-P-80		**8-P-80**	
RATE		**RATE**	
LINER	5.0"	**LINER**	5.0"
STROKE	8.5"	**STROKE**	8.5"
SURVEYS			

TOOL	**LENGTH**
BHA LENGTH (m)	
BHA WEIGHT(kLb)	
STRING WT (kLb)	
HOOK LOAD (kLb)	
WT BELOW JARS (kLb)	
DRAG UP (kLb)	
DRAG DOWN (kLb)	
TORQUE ON (Amps/Rel.)	
TORQUE OFF (Amps/Rel.)	

BULK PRODUCTS	
FUEL ON SITE	30650 Litres
DAILY USAGE	3350 Litres
CUM. FUEL USED	95026 Litres
BARITES ON SITE	-239100 kg
BARITES USED	150500 kg
MUD MIXED	1513 Bbls
MUD LOSSES	1534 Bbls

MUD PROPERTIES	
Time	
Depth (m)	
Temp (° C)	
Mud Type	
Density (ppg)	
ECD (ppg)	
Viscosity (sec)	
PV / YP (cp/lb)	
Gells (s/m)	
API Filt. (cc)	
Cake (/32")	
Solids (% Vol)	
Sand (% Vol)	
MBT	
pH (strip)	
Chlorides (mg/l)	
KCL (%)	
PHPA (ppb)	
ALC - 50 (K)	
Circ. Vol. (Bbl)	
CHEMICAL USAGE	

OPERATION	**HRS**	**CUM**
BOP's / Wellhead		
Cementing		1.5
Circ & Condition		70.0
Coring		
D/O Cement		
Drilling		234.5
FIT / LOT		
Handle BHA		3.0
Repairs		67.5
Rig Service		4.5
Rig up Csg./ Cmt.		4.0
Run Casing	4.5	33.0
Safety		1.5
Slip/Cut Drill Line		6.0
Survey		10.0
Test BOP		14.0
Tight hole / Fishing		0.5
Tripping		152.5
Wait on Cement		
Wash / Ream		9.5
Well Control		26.0
Well Test	10.0	10.0
Wiper Trip		17.0
Wireline		31.5
Other	9.5	65.5
TOTALS	24.0	762.0
DAILY MUD COSTS		
CUM. MUD COSTS		**$118,544.44**
AFE COST - C&S		
AFE COST - P&A		
AFE COST - C&C		

HOURLY OPERATIONS SUMMARY 0000 to 2400

From	To	Description
0:00	3:00	Cont. Rih completion assy on 307 jnts of 2 7/8" 6.4 # J-55 EUE tbg from cat walk.
3:00	4:30	Set pkr with center of element at 2864.37 mtrs and end of tbg at 2876,76 mtrs. Pkr landed with 10 000 lbs compression
4:30	5:00	P/test annulus to 2000 psi and hold 10 mins
5:00	5:30	M/up 2 7/8" EUE landing jnt to top drive and apply 1900 psi to tbg to counter balance differential pressure at on / off connector
5:30	6:00	Disconnect from on/off connector and space up hanger to rig floor.
6:00	8:30	Displace annulus mud with 3% KCL brine direct circulated at 2 1/2 BPM / 2700 psi ICP.
8:30	9:00	Engage on/off connector and land tbg hanger. P/ Test Tbg. to 3000psi for 15 min., Secure with tie down screws.
9:00	10:30	Install BPV and n/dn BOP stack.
10:30	14:00	N/up W-G 5K well head, cw/ needle v/v's and p gauges. Remove BPV, install TWCV. P/test seal pocket & X-mas tree to 5000 psi for 10 min.
14:00	14:30	Remove TWCV valve & install BPV. (pressure Tests witnessed by Brian Marriott, Beach DRR & Scott Healey, Beach Engineer)
14:30	15:00	"RIG HANDED BACK TO DRILLING" "RIG RELEASED" @ 15:00hrs on 4-11-06
15:00	0:00	Rig down BOP, secure same on stump, Top Drive, rig floor jewellry, clean out mud tanks, secure shakers & centrifuge for transport.

MAXIMUM GAS:	% @ m	**BACKGROUND GAS:**	%	**CONNECTION GAS:**	%	**TRIP GAS:**	%
SUPERVISOR:	Brian Marriott	**GEOLOGIST:**		**MUD CO:**	RMN Drilling Fluids		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	1-4	**DAYS FROM SPUD:**	4	**DATE:**	11/06/06
PL:	PEP 160	**0000 hrs Depth:**	310 m	**LAST DEPTH:**	307 m	**PROGRESS:**	3m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove, Heathfield-1					

0600 OPS: Drill ahead at 448m in Pebble Point Formation conglomeratic sandstones.

PREVIOUS 24 Hours Operations: Set 340mm casing to 303.5m, drill out shoe track, and new hole to 310m, perform FIT to 12.0 ppg mweq.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group			487	-411		
Eumeralla Formation			656	-580		
Windermere/Katnook Ss			2034	-1958		
Laira Formation			2059	-1983		
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
0 - 307	See mudlog.	Nil
Fluorescence	Nil	

307 – 320 12-27 (17)	SANDSTONE, (80%) off white to light grey, silty to very coarse, dominantly very fine, subangular to rounded, very poorly sorted, very weak silica cement, abundant white argillaceous and silt matrix – matrix supported, friable, poor visual porosity. SILTSTONE, (20%) off white, very argillaceous, trace micromica, soft, non fissile.	Nil
Fluorescence	Nil	

320 -380 15-27 (24)	SILTY CLAYSTONE, (100%) dark brown, common to abundant dispersed very fine to very coarse quartz sand grains often with brown staining, moderately carbonaceous, trace pyrite, rare glauconite, trace fossil fragments, soft, non fissile.	Nil
Fluorescence	Nil	

380 – 448 10-120 (60)	SANDSTONE, light brown, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, weak silica cement, common dark brown argillaceous matrix, opaque to milky quartz grains often with brown staining, trace pyrite, unconsolidated to friable, good inferred porosity, no oil fluorescence.	Nil
Fluorescence	Nil	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	5	**DAYS FROM SPUD:**	5	**DATE:**	12/06/06	
PL: PEP 160	**0000 hrs Depth:**	883 m	**LAST DEPTH:**	310 m	**PROGRESS:**	573 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill ahead at 990m.

PREVIOUS 24 Hours Operations: Drill ahead to 883m, wiper trip to shoe.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss			2034	-1958		
Laira Formation			2059	-1983		
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
448 - 609 16.6 – 0.3 (1.1)	SANDSTONE, (95%) light brown, very fine to occasionally pebble, dominantly coarse to very coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace pyrite, friable, very good inferred porosity, no oil fluorescence. SILTSTONE, (5%) medium brown, very argillaceous, trace very fine off white altered feldspar grains, trace medium brown cryptocrystalline dolomite, trace black carbonaceous flecks, trace pyrite, trace micromica, soft, very dispersive, non fissile.	Nil
Fluorescence	Nil	

609 – 700 12.5 – 0.5 (1.3)	SILTY CLAYSTONE, (95%) light to medium green grey to light to medium brown grey to medium brown, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile. SANDSTONE, (5%) light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, weak silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, friable, no visual porosity, no oil fluorescence.	Nil
Fluorescence	Nil	

700 – 883 3.0 – 153 (45)	SANDSTONE, (10%) light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, very weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, trace brown mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence. SILTY CLAYSTONE, (90%) light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile.	0.0 – 0.2 (0.1) (100:0:0:0:0)
Fluorescence	Nil	

883-970 14 – 166 (38)	SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey brown and red volcanogenic lithics, trace quartz grains, trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence. SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft, non fissile.	0.0 – 3.0 (1 (100:0:0:0:0)
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	6	**DAYS FROM SPUD:**	6	**DATE:**	13/06/06
PL:	PEP 160	**0000 hrs Depth:**	1248 m	**LAST DEPTH:**	883 m	**PROGRESS:**	365 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead to 1255m, wiper trip prior to running casing.
PREVIOUS 24 Hours Operations: Drill ahead to 1248m.
Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss			2034	-1958		
Laira Formation			2059	-1983		
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	Lithology Description	Gas/Background Breakdown C1/C2/C3/C4/C5
970 – 1080 (35)	SILTY CLAYSTONE, (90%) light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, trace micromica, common pyrite, soft, non fissile. SANDSTONE, (10%) light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	3 – 23.7 (100:0:0:0:0)
Fluorescence	Nil	

1080 – 1255 (14)	SILTY CLAYSTONE, off white to light to medium brown grey to light to medium green grey, trace to common very fine altered feldspar grains, slightly calcareous in part where arenaceous, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, off white to light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, very weak calcareous cement in part, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	3 – 26.7 (97:2:tr:tr:0)
Fluorescence	Nil	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	07-08	**DAYS FROM SPUD:**	8	**DATE:**	16/06/06	
PL: PEP 160	**0000 hrs Depth:**	1255 m	**LAST DEPTH:**	1255 m	**PROGRESS:**	0 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill out shoe track and new hole to 1258m, perform FIT to 1000 PSI, drill ahead with 216mm hole to 1333m.
PREVIOUS 24 Hours Operations: Set 244mm casing at 1252m. Drill out cement and shoe track.
Comment: Increases in gas readings correspond with increases in carbonaceous content.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss			2034	-1958		
Laira Formation			2059	-1983		
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
1255 – 1230 (28)	SILTY CLAYSTONE, off white to light to medium brown grey to light to medium green grey, common to abundant very fine altered feldspar grains, trace black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, off white to light green grey, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	TG 5-51 (23) (96:2:1:1:0)
Fluorescence	Nil	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	09	**DAYS FROM SPUD:**	9	**DATE:**	17/09/06
PL:	PEP 160	**0000 hrs Depth:**	1778 m	**LAST DEPTH:**	1255 m	**PROGRESS:**	523 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 216mm hole at 1853m.

PREVIOUS 24 Hours Operations: Drill out cement and shoe track, drill new 216mm hole to 1258m, perform FIT to 1000PSI (eq MW = 13.7ppg), drill ahead with 216mm hole to 1778m.

Comment: At around 1546m appears to be a quartz lined fracture zone. From just above this fracture interval the sandstones appear to be gas saturated, however the intergranular porosity of these sandstones is interpreted as being extremely low – insufficient for any significant accumulation or production potential.

The detrital coal below 1680m has no fluorescence but gives a very weak dull yellow crush cut – signifies probable maturation of the sediments.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss			2034	-1958		
Laira Formation			2059	-1983		
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
1330 - 1540 (55)	SILTY CLAYSTONE, (70%) off white to light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, (30%) off white to light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	TG 5 – 89.2 (45) (96:2:1:tr:tr)
Fluorescence	Nil	

1540 – 1680 (40)	SILTY CLAYSTONE, (80%) light to medium green grey to light to medium brown, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, (20%) off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. Vein quartz is present in sample around 1546m.	TG 65 - 254 (90) (95:3:1:tr:tr)
Fluorescence	Nil	

1680 – 1778 (23)	SILTY CLAYSTONE, (80%) light to medium green grey to light to medium brown, trace to common very fine altered feldspar grains, trace to rarely common black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, (20%) off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace to rarely common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. COAL: (trace) (detrital) black, earthy to subvitreous luster, platy fracture, very argillaceous in part, moderately hard, brittle. FLUORESCENCE: The coal has no fluorescence but gives a very dull yellow crush cut.	65 – 432 (80) (95:3:1:tr:tr)
Fluorescence	Nil in the sandstone but: The coal has no fluorescence but gives a very dull yellow crush cut.	

1778 – 1853 ((16)	SILTY CLAYSTONE, (90%) off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, (10%) off white to light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. COAL, black to very dark brown grey, earthy to subvitreous, blocky to platy to subconchoidal fracture, very argillaceous in part, hard, brittle.	TG 35 – 705 (85) (96:3:1:tr:tr)
Fluorescence	Nil in the sandstone, but: The coal has no fluorescence but gives a weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	10	**DAYS FROM SPUD:**	10	**DATE:**	18/09/06
PL:	PEP 160	**0000 hrs Depth:**	2125 m	**LAST DEPTH:**	1778 m	**PROGRESS:**	347 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 216mm hole to 2154m, wiper trip to shoe.

PREVIOUS 24 Hours Operations: Drill ahead with 216mm hole to 2125m.

Comment: Controlled drilling 1991-2076m. Reliability of pick for top of Laira – poor.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	Prognosed Depths (mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
1853 – 1968 (35)	SILTY CLAYSTONE, (80%) off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, (20%) off white to light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. COAL, (trace) black to very dark brown grey, earthy to subvitreous, blocky to platy to subconchoidal fracture, very argillaceous in part, hard, brittle.	35 – 1128 (85) (97:2:1:tr:tr)
Fluorescence	Nil in the sandstone, but: The coal has no fluorescence but gives a weak dull yellow crush cut.	

1968 – 2055 (20)	SILTY CLAYSTONE, (80%) off white to medium grey to medium brown to medium green grey, often common to abundant very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, common micromica, firm, subfissile. SANDSTONE, (20%) off white to light green grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica cement, weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	20 – 210 (100) (97:2:1:tr:tr)
Fluorescence	Nil in the sandstone, but the detrital coal has no fluorescence but gives a weak dull yellow crush cut.	

2055 – 2154 (20)	SILTY CLAYSTONE, (95%) medium to dark brown grey to medium grey to medium green grey, gradually becomes more brownish with depth, trace very fine altered feldspar grains in part, moderately carbonaceous in part, trace black carbonaceous flecks and fine detritus, common micromica, moderately hard, subfissile. SANDSTONE, (5%) off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	25 – 124 (60) (97:2:1:tr:tr)
Fluorescence	Nil	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	11	**DAYS FROM SPUD:**	11	**DATE:**	19/09/06
PL:	PEP 160	**0000 hrs Depth:**	2365 m	**LAST DEPTH:**	2125 m	**PROGRESS:**	240 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 216mm hole to 2386m, survey - 6 degrees, POOH for BHA change to pendulum assembly.

PREVIOUS 24 Hours Operations: Drill ahead with 216mm hole to 2154m, wiper trip to shoe, hole condition good, drill ahead to 2365m.

Comment: Calcite veining present in samples around 2106m, 2164m. Major fault interpreted from lithology compaction increase at 2284m, no visible indication in cutting samples.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
2154 – 2285 (30)	SILTY CLAYSTONE, (90%) light to medium grey to medium brown grey to medium green grey, trace to common very fine altered feldspar grains in part, trace black carbonaceous flecks and fine detritus, trace crystalline calcite veining in part, trace to common micromica, moderately hard, subfissile. SANDSTONE, (10%) off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	25 – 125 (50) (97:2:1:tr:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a weak dull yellow crush cut.	

2285 – 2327 (13)	SILTY CLAYSTONE, (90%) light to medium grey to medium brown grey to slightly medium green grey, often common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (10%) off white to light brown grey, silty to very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	10 – 44 (22) (97:2:1:tr:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a weak dull yellow crush cut.	

2327 – 2386 (10)	SILTY CLAYSTONE, (95%) medium grey to medium brown grey to medium green grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (5%0 off white to light brown grey, silty to very fine, occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	10 – 41 (18) (95:2:2:1:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	12	**DAYS FROM SPUD:**	12	**DATE:**	20/09/06	
PL: PEP 160	**0000 hrs Depth:**	2485 m	**LAST DEPTH:**	2365 m	**PROGRESS:**	120 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill ahead with 216mm hole at 2550m

PREVIOUS 24 Hours Operations: Drill ahead with 216mm hole to 2365m, survey 6 degrees, POOH for BHA change to pendulum assembly, trip gas 85 units, drill ahead with 216mm hole to 2485m.

Comment: Last survey 5.25 degrees.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
2386 – 2541 (16)	SILTY CLAYSTONE, (80%) light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace to rarely abundant black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (20%) off white to light brown grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	7 – 60 (25) (95:3:1:1:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	13	**DAYS FROM SPUD:**	13	**DATE:**	21/09/06	
PL: PEP 160	**0000 hrs Depth:**	2753 m	**LAST DEPTH:**	2485 m	**PROGRESS:**	268 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill ahead with 216mm hole at 2802m.

PREVIOUS 24 Hours Operations: Drill ahead with 216mm hole to 2753m.

Comment: Gas analysis is getting more heavies with depth. Very little evidence of fracturing in lithology.
Last survey 6.25 degrees N45W at 2719m.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
2541 - 2670 (17)	SILTY CLAYSTONE, (90%) light to medium grey to medium brown grey, dark brown and very carbonaceous in part, common very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (10%) off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	10 – 62 (32) (93:3:3:1:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

2670 – 2766 (13)	SILTY CLAYSTONE, (90%) light to dark grey to medium brown grey, dark brown grey and moderately argillaceous in part, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (10%) off white to light brown grey, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	12 – 115 (40) (90:4:3:2:1)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

2766 – 2802 (9)	SILTY CLAYSTONE, (70%) light to dark grey to medium brown grey, often abundant very fine altered feldspar grains – grades to silty sandstone, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (30%) off white to light grey, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	15 – 40 (27) (88:5:5:2:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	14	**DAYS FROM SPUD:**	14	**DATE:**	22/09/06	
PL: PEP 160	**0000 hrs Depth:**	2934 m	**LAST DEPTH:**	2753 m	**PROGRESS:**	181 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill ahead with 216mm hole at 2980m.

PREVIOUS 24 Hours Operations: Drill ahead with 216mm hole to 2934m.

Comment: Survey at 2806 = 5.25 degrees N60E, survey at 2893 = 4.74 degrees at 317 degrees. Note increase in heavy gas analysis below c. 2930m.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
2802 – 2907 (11)	SILTY CLAYSTONE, (80%) light to medium dark grey to medium brown grey, often abundant very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (20%) off white to light grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	15 – 75 (25) (88:5:5:2:tr)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

2907 – 2976 (13)	SILTY CLAYSTONE, (70%) light to dominantly medium dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (30%) off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	15 – 164 (50 (77:7:8:5:3))
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	15	**DAYS FROM SPUD:**	15	**DATE:**	23/09/06	
PL: PEP 160	**0000 hrs Depth:**	3002 m	**LAST DEPTH:**	2934 m	**PROGRESS:**	68 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: RIH with Schlumberger Run#1 GR-LLD-LLS-DT-Cal, log repeat section from bottom, run back to bottom - calliper failure – POOH - check head - isolate calliper (no backup calliper available) – RIH - log up to shoe with Run#1 GR-LLD-LLS-DT (no calliper or Rxoz), GR to surface.

PREVIOUS 24 Hours Operations: Drill ahead with 216mm hole to 3002m, wiper trip to condition hole, POOH to log, Rig up Schlumberger, Run#1 GR-LLD-LLS-DT-Cal, RIH.

Comment: Deviation at 2989m = 6.25Deg Az 315 (uncorrected).

Caliper at bottom on repeat – hole in gauge, good condition.

Hole deviation in approximate agreement with rig survey results.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
2976 – 3002 (10)	SILTY CLAYSTONE, (100%) light to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, (Trace) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	27 – 215 (45) (77:8:9:4:2)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	16-19	**DAYS FROM SPUD:**	19	**DATE:**	27/09/06
PL:	PEP 160	**0000 hrs Depth:**	3002 m	**LAST DEPTH:**	3002 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS:

PREVIOUS 24 Hours Operations: Schlumberger Run#1 GR-LLD-LLS-DT-Cal, wiper trip to condition hole, lay out drill string, run and cement 178mm casing to 2999m, change BOP rams, pick up and RIH 89mm drill string, repair top drive, RIH, prepare to drill out shoe track.

Comment: Tight hole and abundant cavings encountered below 2988m on wiper trip and casing run. Cuttings shape and hole instability is suggestive of tectonic stress.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new formation drilled.	
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	20	**DAYS FROM SPUD:**	20	**DATE:**	28/09/06
PL:	PEP 160	**0000 hrs Depth:**	3103 m	**LAST DEPTH:**	3002 m	**PROGRESS:**	101 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole to 3156m, increase mud weight to 9.8 lb/gal, drill ahead to 3168m.

PREVIOUS 24 Hours Operations: Drill out shoe track and new hole to 3005m, FIT to 13.8 ppg mw eq, drill ahead with 152mm hole to 3103m.

Comment: Pressure response on FIT, cutting shape and hole instability would indicate the probable presence of a tectonically stressed fault/fracture being present at around 3000m.

Survey at 3108m = 8.5 degrees at 332 degrees TN.

At 3153m total gas readings rose to 4251 units (70:10:11:6:3) corresponding to a very strongly calcareous cemented sandstone (no visual porosity – dull orange carbonate fluorescence – no cut). Sample and drilling indicators suggest the gas came from a small partially open calcite lined fracture at this depth. Subsequently the mud weight was increased from 9.5 lb/gal to 9.8 lb/gal by the addition of KCl.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	Lithology Description	Gas/Background Breakdown C1/C2/C3/C4/C5
3002 – 3108 (17)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, grey black and very carbonaceous in part, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (10%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	35 – 240 (76) (83:7:5:3:2)
Fluorescence	Nil in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

3108-3162 (40)	SILTY CLAYSTONE, (70%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, slightly calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace vein calcite at 3129m, common micromica, hard, subfissile. SANDSTONE, (30%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and very strong calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, (trace) black, subvitreous to vitreous, subconchoidal fracture, hard, brittle.	50 – 530 (190) (70:10:11:6:3)

Fluorescence	The sandstone has dull orange mineral fluorescence, no cut. The coal has no fluorescence but gives a weak pale yellow crush cut.

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	21	**DAYS FROM SPUD:**	21	**DATE:**	29/09/06
PL:	PEP 160	**0000 hrs Depth:**	3230 m	**LAST DEPTH:**	3103 m	**PROGRESS:**	127 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: RIH, circulate hole clean (WTG 3076 units (81:8:7:3:1)), POOH for steering assembly.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3230m, circulate hole clean, POOH to due to excessive deviation, wait at shoe for directional steering equipment.

Comment: Survey at 3194m = 9.25 degrees N15W.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3162 – 3230 (33)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, moderately calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace calcite veining, common micromica, hard, subfissile. SANDSTONE, (10%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and strong calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	35 – 2766 (300) (77:8:8:5:2)
Fluorescence	Dull orange mineral fluorescence, no cut, in the sandstone, but: The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	22	**DAYS FROM SPUD:**	22	**DATE:**	30/09/06
PL:	PEP 160	**0000 hrs Depth:**	3230 m	**LAST DEPTH:**	3230 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead to 3247m.

PREVIOUS 24 Hours Operations: RIH, circulate hole clean (WTG 3076 units (81:8:7:3:1)), POOH, pick up bent sub and steering assembly to correct excessive hole deviation, RIH, TG 3790u, orientate tool, prepare to drill ahead.

Comment: Controlled drilling to correct excessive hole deviation. Mud weight increased to 10.0 ppg due to increased formation pressure.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3230 – 3246 (5)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (10%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	35 – 462 (95) (79:8:7:4:2)
Fluorescence	The sandstone has dull orange mineral fluorescence, no cut. The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01	**REPORT No.:**	23	**DAYS FROM SPUD:**	23	**DATE:**	01/10/06	
PL: PEP 160	**0000 hrs Depth:**	3290 m	**LAST DEPTH:**	3230 m	**PROGRESS:**	60 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill ahead with 152mm hole at 3304m.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3290m.

Comment: Survey at 3255 = 14.1 degrees at N2.7E. Survey at 3275 = 18.1 degrees at N7.3W

From 3293-3303+m the cutting samples have common calcite lined fractures and minor quartz lined fractures. These gave 4337 units of total gas (60:8:13:12:7). Subsequently the mud weight was increased to 10.2 ppg. Best assessment based on currently available data is for this to be the parasitic edge of the main fault zone. Indications suggest the drilled section has only limited porosity interconnectivity.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3246 – 3304 (4)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile, with from 3293m common calcite and occasional quartz lined fractures. SANDSTONE, (10%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence, with from 3293m common calcite and occasional quartz lined fractures. CARBONACEOUS CLAYSTONE, (trace) grey black, earthy texture, blocky to platy fracture, trace micromica, moderately hard.	41 – 4337 (70) (60:8:13:12:7)
Fluorescence	The sandstone has dull orange mineral fluorescence, no cut. The detrital coal and carbonaceous claystone has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	24	**DAYS FROM SPUD:**	24	**DATE:**	02/10/06
PL:	PEP 160	**0000 hrs Depth:**	3306 m	**LAST DEPTH:**	3290 m	**PROGRESS:**	16 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS:

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3306m, survey at 3294m = 20.5 degrees at 358.7 degrees azimuth, circulate hole clean, POOH in preparation for setting cement plug and sidetracking due to excessive hole deviation.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3304 – 3306 (4.5)	SILTY CLAYSTONE, (100%) medium to dark grey to medium brown grey, occasionally very dark grey and moderately carbonaceous, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, (Trace) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, common calcite lined fractures, hard, no visual porosity, no oil fluorescence.	54 – 79 (70) (60:8:13:12:7)
Fluorescence	The sandstone has dull orange mineral fluorescence, no cut. The detrital coal has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-01		**REPORT No.:**	25-29	**DAYS FROM SPUD:**	25-29	**DATE:**	07/10/06
PL:	PEP 160	**0000 hrs Depth:**	3041 m	**LAST DEPTH:**	3041 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Begin to establish kick-off from 3042m, 0600 depth 3051m, current samples 100% cement.

PREVIOUS 24 Hours Operations: RIH with directional drilling assembly.

Comment: 152mm Hole was drilled to 3306m, hole was subsequently cemented back due to excessive hole deviation. Top of cement plug dressed to 3041m, before RIH with directional drilling assembly with MWD to steer well to target.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new formation drilled.	
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1	**REPORT No.:**	30	**DAYS FROM SPUD:**	30	**DATE:**	08/10/06
PL: PEP 160	**0000 hrs Depth:**	3072 m	**LAST DEPTH:**	3041 m	**PROGRESS:**	31 m
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole at 3083m.

PREVIOUS 24 Hours Operations: RIH with directional drilling assembly, try to establish kick-off from 3042m, kick off established by 3063m, drill ahead with 152mm hole whilst correcting hole angle to 3072m.

Comment: Lower gas readings on ST1 compared with original hole are due to lower ROP and increased mud weight. Gas system checks indicate gas sampling system to be fully functional.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3042 - 3063	Cement (100%).	
Fluorescence		

3063 – 3081 (1.5)	SILTY CLAYSTONE, (80%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (20%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	1 – 15 (11) (82:7:5:2:3)
Fluorescence	No oil fluorescence but the carbonaceous material gives a very weak pale yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	31	**DAYS FROM SPUD:**	31	**DATE:**	09/10/06
PL:	PEP 160	**0000 hrs Depth:**	3119 m	**LAST DEPTH:**	3072 m	**PROGRESS:**	47 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: POOH for new bit, top drive hit monkey board, attempt to repair top drive.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3119m, POOH for new bit.

Comment: Survey at 3104m = 2.52 degrees at 30.28 az.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3081 – 3119 (2.8)	SILTY CLAYSTONE, (80%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (20%) off white to light brown, silty to occasionally fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	2 – 28 (6) (82:8:7:3:tr)
Fluorescence	No oil fluorescence but the carbonaceous material gives a very weak pale yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	32	**DAYS FROM SPUD:**	32	**DATE:**	10/10/06
PL:	PEP 160	**0000 hrs Depth:**	3119 m	**LAST DEPTH:**	3119 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Wait on repairs to top drive and monkey board.

PREVIOUS 24 Hours Operations: POOH for new bit, top drive hit monkey board; wait on repairs to top drive and monkey board.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new formation drilled.	
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	33	**DAYS FROM SPUD:**	33	**DATE:**	11/10/06
PL:	PEP 160	**0000 hrs Depth:**	3119 m	**LAST DEPTH:**	3119 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Wait on repairs to top drive and monkey board.

PREVIOUS 24 Hours Operations: Wait on repairs to top drive and monkey board.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new formation drilled.	
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	34	**DAYS FROM SPUD:**	34	**DATE:**	12/10/06
PL:	PEP 160	**0000 hrs Depth:**	3119 m	**LAST DEPTH:**	3119 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: RIH with tricone mill tooth bit and directional drilling assembly, TG 89u, drill ahead with 152mm hole to 3127m.
PREVIOUS 24 Hours Operations: Wait on repairs to top drive and monkey board, repair MWD, RIH.
Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3119 – 3126 (3.0)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (10%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	3 – 881 (50) (80:9:8:2:1)
Fluorescence	No oil fluorescence but the carbonaceous material gives a very weak pale yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	35	**DAYS FROM SPUD:**	35	**DATE:**	13/10/06
PL:	PEP 160	**0000 hrs Depth:**	3169 m	**LAST DEPTH:**	3119 m	**PROGRESS:**	50 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole at 3182m.

PREVIOUS 24 Hours Operations: RIH with tricone mill tooth bit and directional drilling assembly, TG 89u, drill ahead with 152mm hole to 3169m.

Comment: Survey at 3148m = 2.72 degrees at 152.37 azimuth.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3126 – 3182 (2.5)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, rarely very carbonaceous, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, trace calcite lined fractures in part, hard, subfissile. SANDSTONE, (10%) off white to light brown, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, trace calcite lined fractures in part, hard, no visual porosity, no oil fluorescence. COAL, (trace) black, subvitreous to vitreous, subconchoidal fracture, hard, brittle.	3 – 2538 (150) (77:9:8:4:2)
Fluorescence	The sandstone has dull yellow-orange mineral fluorescence but no cut. The coaly material has no fluorescence but gives a very weak pale yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	36	**DAYS FROM SPUD:**	36	**DATE:**	14/10/06
PL:	PEP 160	**0000 hrs Depth:**	3182 m	**LAST DEPTH:**	3169 m	**PROGRESS:**	13 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: RIH, drill ahead with 152mm hole to 3192m, trip gas 3445 units with slightly oil cut mud.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3182m, POOH for new bit, flow check at shoe positive, slow influx, RIH, circulate out (4154 units gas and slightly oil cut mud), increase mud weight to 10.5+ lb/gal, POOH, pick up PDC bit.

Comment: Influx on trip gave 4154 units of total gas (73:9:9:6:3) with oil cut mud. The oil is on the heavier end of light crude (bright pale yellow white fluorescence, milky white cut). The sandstones present visually are too tight for significant intergranular porosity, but the little fractures through it coupled with a minor input from the sand would be the most likely source, (the fluorescence does not show up in the sand cutting samples - too tight). The producing interval is probably mainly from around 3152m, but with some minor input from other fractures below at 3165 and 3180m.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1	**REPORT No.:**	37	**DAYS FROM SPUD:**	37	**DATE:**	15/10/06
PL: PEP 160	**0000 hrs Depth:**	3207 m	**LAST DEPTH:**	3182 m	**PROGRESS:**	25 m
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: RIH to shoe, circulate, bottoms up gas from shoe 2491u.

PREVIOUS 24 Hours Operations: RIH, drill ahead with 152mm hole to 3207m, well flowing oil and gas cut mud, circulate through choke, increase mud weight to 10.8ppg, drill string blocked, POOH, clear string of salt, RIH.

Comment: Well began flowing oil/gas cut mud from around 3192m (well TD 3207m), maximum gas readings 4560 units (61:12:13:9:5). The crude is green, waxy (pour point 35 degrees C.), and is on the heavier end of a light crude, gives a bright pale greenish yellow white fluorescence with a milky white cut. Best assessment is for the flow to be from small fractures associated with a coal/sand section around 3192m. No fluorescence was observed in the sand and the sand visually has no discernable intergranular porosity. Estimated potential recoverable volume – low.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3182 – 3207 (33)	SILTY CLAYSTONE, (80%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, very carbonaceous in part, common micromica, hard, subfissile. SANDSTONE, (20%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular/contused fracture, hard, brittle.	25 – 4560 (300) (61:12:13:9:5)
Fluorescence	The sandstone has dull yellow-orange mineral fluorescence but no cut. The coaly material has no fluorescence but gives a very weak pale yellow crush cut. The oil flowing from around 3192m gives a bright pale greenish yellow white fluorescence with a milky white cut, pour point 35 degrees C.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	38	**DAYS FROM SPUD:**	38	**DATE:**	16/10/06
PL:	PEP 160	**0000 hrs Depth:**	3267 m	**LAST DEPTH:**	3207 m	**PROGRESS:**	60 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole at 3279m (slide and rotate to control hole angle).

PREVIOUS 24 Hours Operations: RIH to shoe, circulate, RIH, trip gas 4709units with oil cut mud, drill ahead (slide and rotate to control hole angle) to 3267m.

Comment: Bottoms up after trip 4709 units (61:10:14:10:5) with oil cut mud.

Survey at 3206m = 1.0 degrees at 172.45 degrees azimuth, 3249 = 0.9 degrees at 242.06 Azimuth.

Mud is salt saturated – further mud weight increases and maintenance will be with barite – mud weight increased to 11.0+ ppg.

Gas peak at 3215m of 4056 units (60:12:15:9:4) associated with probable minor fractures in silty claystone (very carbonaceous in part) - no flow, no oil in mud.

Connection gas peaks on all connections to 4500 units with traces of free oil in mud.

From 3261m well very slowly flowing gas and oil probably from the fractured interval around 3192m, flow checks negative – reservoir pressure appears to be depleting whilst drilling. The oil in the drilling mud gives a bright pale greenish yellow white fluorescence with a milky white cut, freezes at surface temperatures.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	Lithology Description	Gas/Background Breakdown C1/C2/C3/C4/C5
3207 – 3279 (5)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and coaly detritus, common micromica, hard, subfissile. SANDSTONE, (10%) off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture, hard, brittle.	70 – 4436 (350) (60:12:15:9:4)
Fluorescence	The sandstone has dull yellow-orange mineral fluorescence but no cut. The coaly material has no fluorescence but gives a very weak pale yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	39	**DAYS FROM SPUD:**	39	**DATE:**	17/10/06
PL:	PEP 160	**0000 hrs Depth:**	3361 m	**LAST DEPTH:**	3277 m	**PROGRESS:**	84 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole to 3386m, wiper trip.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3361m - slide and rotate to control hole angle.

Comment: Survey at 3263m = 1.48 degrees @ 232.27 azimuth, Survey at 3282.64m = 2.60 degrees @ 228.6 Azimuth, Survey at 3292m = 1.86 degrees @ 259.15 azimuth, Survey at 3341m = 1.99 degrees @ 256.98 azimuth.

Connection gases on all connections to 4578 units of total gas often with small volumes of free oil in the drilling mud - lag timing on connection gases corresponds to a depth of 3192m.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3279 – 3386 (7)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, trace calcite lined fractures in part, common micromica, hard, subfissile. SANDSTONE, (10%) off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, (trace) black to very dark grey, very argillaceous – grades to carbonaceous claystone, earthy lustre, irregular to blocky fracture, hard.	75 – 4578 (155) (59:11:14:11:5)
Fluorescence	The sandstone has dull yellow-orange mineral fluorescence but no cut. The coaly material has no fluorescence but gives a very weak pale yellow crush cut. Free oil in mud associated with connection gases from 3192m has a bright pale greenish yellow white fluorescence with a milky white cut, freezes at surface temperatures.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	40	**DAYS FROM SPUD:**	40	**DATE:**	18/10/06
PL:	PEP 160	**0000 hrs Depth:**	3418 m	**LAST DEPTH:**	3361m	**PROGRESS:**	57 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole at 3451m.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3386m, wiper trip, (work tight hole at 3259m), wiper trip gas 4233 units, dill ahead with 152mm hole to 3418m.

Comment: Survey at 3427m = 2.99 degrees at 169.22 azimuth.

Connection gases on all connections to 4578 units of total gas often with small volumes of free oil in the drilling mud - lag timing on connection gases corresponds to a depth of 3192m.

Hole slowly loosing mud into fractures below 3433m.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3386 – 3440 (4)	SILTY CLAYSTONE, (85%) medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (15%) off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, rare fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle.	10 to 200 units from Coal (90:4:2:5:1) 200 – 4473 units from oil flow (59:11:14:11:5)
Fluorescence	The sandstone has dull yellow-orange mineral fluorescence but no cut. The coaly material has no fluorescence but gives a very weak pale yellow crush cut. Free oil in mud associated with connection gases lagged from 3192m has a bright pale greenish yellow white fluorescence with a milky white cut, freezes at surface temperatures.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1	**REPORT No.:**	41	**DAYS FROM SPUD:**	41	**DATE:**	19/10/06	
PL: PEP 160	**0000 hrs Depth:**	3507 m	**LAST DEPTH:**	3418 m	**PROGRESS:**	89 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: RIH.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3507m, POOH to layout MWD.

Comment: Section from 3440-3450m consists predominantly of a fine to medium grained sandstone, no visible intergranular porosity, no intergranular oil fluorescence; however this section has abundant calcite infilled fractures. Most fractures appear to be solidly cemented with calcite, however some open fracturing is present as evidenced by mud losses through this section of about 20 bbls/hr - this corresponds to the presence of oil fluorescence in some of the fracture infill material. The fractures continue below 3450m, (hosted predominantly by silty claystone) however these have no oil fluorescence and appear to be all tight – verified by no increased mud losses through this interval.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3440 – 3450 (9)	SILTY CLAYSTONE, (20%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, abundant calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, (80%) off white, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, abundant calcite lined fractures, very hard, no visible intergranular porosity, no intergranular oil fluorescence.	150 – 1647 (210) (86:7:3:2:2)
Fluorescence	The fracture infill material has dull yellow mineral fluorescence and trace dull to moderately bright very pale yellow white oil fluorescence giving a weak dull milky white crush cut fluorescence. The sandstone has no intergranular oil fluorescence. The coaly material has no fluorescence but gives a very weak pale yellow crush cut.	

3450 – 3507 (10)	SILTY CLAYSTONE, (90%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, (10%) off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence. COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle.	75 – 1647 (210) (89:6:3:1:1)
Fluorescence	The sandstone has dull orange mineral fluorescence, no cut. The coal has no fluorescence but gives a weak pale yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1	**REPORT No.:**	42	**DAYS FROM SPUD:**	42	**DATE:**	20/10/06	
PL: PEP 160	**0000 hrs Depth:**	3563 m	**LAST DEPTH:**	3507 m	**PROGRESS:**	54 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Drill ahead with 152mm hole to 3564m, POOH due to low ROP.

PREVIOUS 24 Hours Operations: POOH, lay out MWD, RIH, trip gas 3162 units, drill ahead with 152mm hole to 3563m.

Comment: The sandstone interval from 3508-3532m appears to be gas saturated, however the porosity is inferred as being very poor to poor, with most of the sand interval being sufficiently tight as to preclude gas accumulation. The gross sand interval is 24m, with a net effective gas pay of 5.5m. No evidence was seen in the cutting samples of fracturing, and no mud losses were recorded whilst drilling this interval.

The sandstones from 3550-3564m in cutting samples appear to have extremely limited porosity – sufficiently tight as to preclude gas accumulation - no evidence was observed in cutting samples of fracturing and no mud losses were recorded whilst drilling this interval.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3507 – 3508 (8)	SILTY CLAYSTONE, (100%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, hard, subfissile.	130 (89:6:3:1:1)
Fluorescence	NIL	

3508 – 3532 (15)	SANDSTONE, (100%) off white, very fine to fine at top becoming very fine to occasionally very coarse at base, dominantly fine at top becoming dominantly medium to coarse at base, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, nil to poor visual porosity, no oil fluorescence.	60 – 2332 (93:3:2:1:1)
Fluorescence	NIL	

3532 – 3550 (4)	SILTY CLAYSTONE, (80%) medium to dark grey to medium brown, common very fine altered feldspar grains in part, slightly carbonaceous, trace fine black carbonaceous flecks and detritus in part, common micromica, hard, subfissile. SANDSTONE, (20%) off white, very fine to very coarse, dominantly fine, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	65 – 214 (125) (92:4:2:1:1)
Fluorescence	NIL	

3550 – 3564 (3)	SILTY CLAYSTONE, (30%) medium to dark grey to medium brown, trace very fine altered feldspar grains in part, moderately carbonaceous, trace fine black carbonaceous flecks and detritus in part, common micromica, hard, subfissile. SANDSTONE, (70%) off white, very fine to rarely coarse, dominantly medium, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, trace to common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	75 – 256 (120) (92:4:2:1:1)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	43	**DAYS FROM SPUD:**	43	**DATE:**	21/10/06
PL:	PEP 160	**0000 hrs Depth:**	3572 m	**LAST DEPTH:**	3563 m	**PROGRESS:**	9 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole to 3578m.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3564m, POOH due to low ROP, pick up new PDC bit, RIH, trip gas (from 3192m) 3610 units with slightly oil cut mud, trip gas from 3564m 10 units, drill ahead with 152mm hole to 3572m.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3564 – 3576 (1)	SILTY CLAYSTONE, (50%) medium to dark grey to rarely medium brown grey,, moderately carbonaceous, trace fine black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (50%) off white, very fine to medium, dominantly fine, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, trace to common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	35 – 98 (70) (72:8:7:7:6)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	44	**DAYS FROM SPUD:**	44	**DATE:**	22/10/06
PL:	PEP 160	**0000 hrs Depth:**	3612 m	**LAST DEPTH:**	3572 m	**PROGRESS:**	40 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole at 3619m.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3612m.

Comment: Oil Show: 3593-3603m – the oil is contained within the kaolinitic sandstone with very limited visual porosity – as the sandstone becomes cleaner with depth the kaolin is replaced with silica cement thus reducing effective porosity and hence fluorescence. Best assessment would suggest this interval is too tight for significant pore fluid recovery.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3576 – 3593 (1.7)	SILTY CLAYSTONE, (90%) medium grey to black, medium brown grey in part, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard to very hard, subfissile. SANDSTONE, (10%) off white, very fine to medium, dominantly fine, angular to subrounded, poorly sorted, strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	35 – 98 (75) (77:7:6:9:7)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

3593 – 3603 (4.0)	KAOLINITIC SANDSTONE, (100%) off white, moderately calcareous, abundant very fine to fine quartz sand grains dispersed through a white kaolin clay matrix, common black coaly laminates – sand percentage and grain size increases with depth, trace grey banded cryptocrystalline chert in part – possible fracture infill?, moderately hard, very poor intergranular porosity - grades with depth to: SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, common to abundant white argillaceous matrix, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, trace grey banded cryptocrystalline chert – possible fracture infill?, very hard, no visual porosity.	30 – 78 (55) (72:6:5:8:9)
Fluorescence	FLUORESCENCE, (3593-3603m) the kaolinitic sandstone has 50% decreasing to trace with depth, dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut at the top.	

3603 – 3618 (1.3)	SILTY CLAYSTONE, (90%) medium grey to black to medium brown, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (10%) off white, very fine to fine, dominantly very fine, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common to abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity.	8 – 39 (21) (84:6:4:3:3)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	45	**DAYS FROM SPUD:**	45	**DATE:**	23/10/06
PL:	PEP 160	**0000 hrs Depth:**	3648 m	**LAST DEPTH:**	3612 m	**PROGRESS:**	36 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Drill ahead with 152mm hole at 3655m.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3642m, wiper trip (hole tight), wiper trip gas 3200 units, drill ahead with 152mm hole to 3648m.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3618 – 3654 (1.8)	SILTY CLAYSTONE, (70%) medium grey to black to medium brown, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, (30%) off white, very fine to fine, dominantly very fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, no visual porosity.	5 – 43 (27) (82:7:5:3:3)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1	**REPORT No.:**	46	**DAYS FROM SPUD:**	46	**DATE:**	24/10/06	
PL: PEP 160	**0000 hrs Depth:**	3688 m	**LAST DEPTH:**	3648 m	**PROGRESS:**	40 m	
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m	
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m			
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1						

0600 OPS: Wiper trip, prepare to drill ahead with 152mm hole from 3688m.

PREVIOUS 24 Hours Operations: Drill ahead with 152mm hole to 3688m, connection tight, wiper trip.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3654 – 3671 (2.2)	SILTY CLAYSTONE, (50%) medium grey to black to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and coaly detritus, trace to common micromica, hard, subfissile. SANDSTONE, (50%) off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, trace to abundant grey banded cryptocrystalline chert, hard, no visual porosity, no oil fluorescence.	25 – 64 (55) (81:5:6:5:3)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

3671 – 3674 ((4.6)	KAOLINITIC SANDSTONE, (100%) off white, very fine to occasionally fine, angular to subrounded, moderately sorted, moderate silica and weak calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace black coaly detritus, trace grey banded cryptocrystalline chert, moderately hard, no visual porosity.	35 – 51 (50) (86:6:3:3:2)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

3674 – 3687 (2.0)	SILTY CLAYSTONE, (20%) medium grey to black to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and coaly detritus, trace to common micromica, hard, subfissile. SANDSTONE, (80%) off white, very fine to medium, dominantly fine – becoming coarser with depth, angular to subrounded, moderately sorted, strong to very strong silica and moderate calcareous cements, common to abundant white argillaceous matrix –matrix decreases with depth, quartzose, common to abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, nil to very poor visual porosity, no oil fluorescence.	25 – 190 (45) (95:3:1:tr:tr)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1	**REPORT No.:**	47	**DAYS FROM SPUD:**	47	**DATE:**	25/10/06
PL: PEP 160	**0000 hrs Depth:**	3700 m	**LAST DEPTH:**	3688 m	**PROGRESS:**	12 m
LOCATION: Otway Basin	**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N	**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:	Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Finish conditioning hole, POOH to log, RIH with Schlumberger Run#1 FMS-GR.

PREVIOUS 24 Hours Operations: Wiper trip, wiper trip gas 3561 units, drill ahead with 152mm hole to 3700m (T.D.), circulate hole clean, wiper trip, hole tight, condition hole.

Comment: T.D. 3700m reached at 1430hrs 25th October 2006.

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.	3700	-3630	3945	-3869	245H	

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3687 – 3700 (1.6) T.D.	SILTY CLAYSTONE, (70%) medium grey to black to medium brown, moderately to very carbonaceous, trace black carbonaceous flecks and coaly detritus, trace very fine altered feldspar where brown, trace to common micromica, hard, subfissile. SANDSTONE, (30%) off white, very fine to medium, dominantly medium, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	25 – 125 (35) (88:7:5:3:2)
Fluorescence	The sandstone has dull yellow orange mineral fluorescence, no oil fluorescence or cut. The carbonaceous material has no fluorescence but gives a very weak dull yellow crush cut.	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	48	**DAYS FROM SPUD:**	48	**DATE:**	26/10/06
PL:	PEP 160	**0000 hrs Depth:**	3700 m	**LAST DEPTH:**	3700 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: RIH to shoe, pressure test surface equipment, circulate out from shoe (maximum as 1670 units.

PREVIOUS 24 Hours Operations: Finish conditioning hole, POOH to log, RIH with Schlumberger Run#1 FMS-GR, Run#2 Pex-BHC, Rig down Schlumberger, pressure test BOPs, RIH for cleanout trip.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.	3700	-3630	3945	-3869	245H	

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new hole drilled.	
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	49	**DAYS FROM SPUD:**	49	**DATE:**	27/10/06
PL:	PEP 160	**0000 hrs Depth:**	3701 m	**LAST DEPTH:**	3700 m	**PROGRESS:**	1 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Circulate while waiting for mud chemicals.

PREVIOUS 24 Hours Operations: RIH to shoe, pressure test surface equipment, circulate out from shoe (maximum gas 1670 units, RIH, trip gas 3354u, drill 1m of new hole at 0.9m/hr in claystone to evaluate torque, hole slowly flowing from bottom, gradually increase mud weight to 12.0 ppg attempting to control influx.

Comment: Gas analysis of influx (90:6:2:1:1) cf. gas analysis of influx from oil zone at 3192m (61:12:13:9:5).

Gas analysis whilst circulating 10-20 units (80:6:4:5:5), gas from shutdown peaks 960 units (90:6:2:1:1).

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.	3700	-3630	3945	-3869	245H	

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
3700 – 3701 (0.9)	SILTY CLAYSTONE, (90%) medium grey to black to medium brown, moderately to very carbonaceous, trace black carbonaceous flecks and coaly detritus, trace very fine altered feldspar where brown, trace to common micromica, hard, subfissile. SANDSTONE, (10%) off white, very fine to fine, dominantly fine, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	190units (90:6:2:1:1)
Fluorescence	NIL	

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	50	**DAYS FROM SPUD:**	50	**DATE:**	28/10/06
PL:	PEP 160	**0000 hrs Depth:**	3701 m	**LAST DEPTH:**	3701 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: POOH to log.

PREVIOUS 24 Hours Operations: Increase mud weight to 12.1ppg, influx whilst not circulating 960units (90:6:2:1:1) circulate whilst waiting for mud chemicals, increase mud weight to 12.4ppg, spot heavy mud 3700-3450m, hole static, repair top drive.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
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Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation	3508	-1822	3746	-3670	238H	
T.D.	3700	-3630	3945	-3869	245H	

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new formation drilled.	
Fluorescence		

DAILY GEOLOGICAL REPORT

WELL: Glenaire-1ST1		**REPORT No.:**	51	**DAYS FROM SPUD:**	51	**DATE:**	29/10/06
PL:	PEP 160	**0000 hrs Depth:**	3701 m	**LAST DEPTH:**	3701 m	**PROGRESS:**	0 m
LOCATION: Otway Basin		**Rig:** Ensign 32		**RT elevation:**	76.1 m	**PTD:**	3945 m
Northing: 5 840 813 m N		**Easting:** 499 810 m E		**Ground Level**	70.0m		
NEARBY WELLS:		Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1					

0600 OPS: Condition mud, spot heavy mud on bottom, POOH for running 4.5" (114.3mm) liner.

PREVIOUS 24 Hours Operations: POOH, RIH Schlumberger log#3 DLT, rig down Schlumberger, RIH, circulate hole clean and condition mud.

Comment:

Formation Tops **(Wellsite)**	Wellsite (mRT)	Wellsite (mSS)	Prognosed Depths (mRT)	(mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
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T.D.	3700	-3630	3945	-3869	245H	

Interval (m) ROP (ave) min/m	**Lithology Description**	**Gas/Background Breakdown C1/C2/C3/C4/C5**
	No new formation drilled.	
Fluorescence		

BEACH PETROLEUM

BIT RECORD

Well :	**Glenaire 01 ST1**	Basin / Area :	**Otway Basin**	Permit :	**PEP 160**
Location : Latitude :	**37° 34' 47.03'' S**			G.L.	**70.00** metres
Longitude :	**140° 59' 52.25'' E**	Well Site Supervisor:	**Brian Marriott**	K.B.	**74.80** metres
Contractor :	**Ensign**	Rig #:	**32**	Proposed TD:	**3945** metres

Field : **ay Basin in the Eastern Penola Tr**
Spud Date: **08-Sep-06**
T.D. Date: **27-Oct-06**
Rig Released Date: **28-Oct-06**

PUMPS				MUD TYPE			
No.	**Type**	**Stroke (in)**	**Liner (in)**	**Output (gps)**	**Section**	**Dev**	**Interval**	**Type**	**Wt**
1	8-P-80 Triplex	8.50	5.00	2.10	Surface	1.00°	0m to 307m	Gel-Spud	9.00
2	8-P-80 Triplex	8.50	5.00	2.10	#REF!	1.00°	307m to 307m	Gel-Spud	9.00
					#REF!	#REF!	##	###	#####

Bit No.	Run No.	Size (in)	Make	Type	IADC Code	Serial No.	# of nozzles Size- 32nds	Motor Y / N	Shock-Sub Serial No.	Depth Out	Metres	Hours	ROP (m/hr)	Accum Hours	Bit Grading I	O	D	L	B	G	O	R	WOB Mn	WOB Mx	RPM Mn	RPM Mx	Press (psi)	Pump (gpm)
1	1	17.5	Smith	XRCPS	115	MR9725	3 1 / 20 16	N		307	307	25	12.3	25	1	1	NO	A	2	i	RR	TD	2	10	70	120	1200	768
2	2	12.25	Smith	XRCPS	115	MY0188	3 1 / 14 14	N		1255	948	40	23.7	65	2	2	NO	A	2	1	NR	TD	4	20	70	130	1850	660
3	3	8.5	Hyc	DSX519M	PDC	211741.0	5 / 12	Y		2386	1131	64.5	17.5	129.5	0	0	NO	A	X	i	RR	BHA	3	6	175	200	1600	454
4	RR#3	8.5	Hyc	DSX519M	PDC	211741	5 / 12	Y		3002	616	58.5	10.5	188	1	1	NO	A	X	I	RR	TD	5	6	200	227	1850	454
5	RR#3	8.5	Hyc	DSX519M	PDC	211741	5 / 12	Y		3002	0	0		188	1	1	NO	A	X	1	I	TD	CL	EA	N	OU	T	
6	4	6.0	Hyc	DSX516M	PDC	114752	5 / 14	Y		3230	228	16	14.3	204	1	1	NO	A	X	1	1	BHA	2	4	147	187	2850	260
7	5	6.0	Hyc	SL12TKPR	127	NR2619	3 / 20	Y		3306	76	23.5	3.2	227.5	3	5	WT	A	E	1	BT	BHA	10	18	135	195	2600	260
			GlenAire-1ST1																									
8	RR#5	6.0	Hyc	SL12TKPR	127	NR2619	3 / 20	N		3041	4	0.5	8.0	228	3	5	WT	A	E	1	BT	BHA	DR	ILL		CE	ME	NT
9	6	6.0	Security	XN4	217S	10826038	3 / 20	Y		3119	78	43.5	1.8	271.5	3	5	WT	A	F	1	FC	BC	1	15	135	195	2930	250
10	7	6.0	Smith	XR+	117	PB9348	3 / 24	Y		3182	63	26.5	2.4	298	2	2	WT	A	E	I	NO	HR	10	14	130	195	3000	250
11	RR#4	6.0	Hyc	DSX516M	PDC	114752	5 / 15	Y		3207	25	1	25.0	299	1	1	0	A	X	i	NO	BHA	3	8	130	195	3150	250
12	RR#4	6.0	Hyc	DSX516M	PDC	114752	5 / 15	Y		3507	300	66	4.5	364	1	1	CT	S	X	1	NO	PP	0	6	130	200	3150	250
13	RR#4	6.0	Hyc	DSX516M	PDC	114752	5 / 16	Y		3564	57	76.5	0.7	280.5	1	4	CT	S	X	1	NR	PR	4	10	130	190	3100	250
14	8	6.0	Hyc	DSX111	PDC	112300	4 3 / 20 10	Y		3700	136	83	1.6	363.5	2	3	WT	A	X	i	PN	TD	5	17	150	200	2300	200
15	RR#8	6.0	Hyc	DSX111	PDC	112300	4 3 / 20 10	N		3701	1	1	1.0	364.5	2	3	WT	A	X	i	PN	TD	8	10	75	80	2700	248

Comments : Bit #3, Hyc, PDC, 8-1/2" x DSX519M, s.n. = 211741 was RR as bit #4
Bit #4 , Hyc, PDC, 6" x DSX516M-B1, s.n. = 114752 was RR as bit #8 (changed jets f/ 5 x 14 jets to 5 x 15 jets) (RR in hole @ 3207m, no jets > out @ 3564m = 143.5hrs

I.H., 4-3/4", P100XL Bico, motor, s.n. = 380-47759-03 = F/15-10-06 = 41.5hrs + 14hrs on 16th = 55.5hrs + 17hrs on 17th = 72.5hrs + 17.5hrs on 18th = 90hrs + 12.5 on 19th = 102.5hrs + 14hrs on 20th = 116.5hrs
7hrs on 21st = 123.5hrs + 23.5hrs on 22nd = 147hrs + 23.5 on 23rd = 170.5hrs + 23 on 24th = 193.5hrs + 8.5hrs on 25th = 202 hrs

Spare 4-3/4" Bico, 150 Mud motor. s.n. = H35
4-3/4" Dailey Drilling Jars, s.n. = 1400-222A; f/ 20-10-06, Hours = 14hrs + 7hrs on 21st = 21hrs + 23.5hrs on 22nd = 44.5hrs + 23.5hrs on 23rd = 67.5hrs + 23 on 24th = 90.5hrs + 8.5hrs = 99 hrs

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DRILLING FLUID SUMMARY

FOR : BEACH PETROLEUM

WELL : GLENAIRE # 1 & ST1

OTWAY BASIN

VICTORIA

Prepared by : Peter Aronetz
Andre Skujins

Date : November 2006

Operator : Beach Petroleum
Well : Glenaire # 1
Rig : Ensign Rig 32
Spud : 8th September 2006

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1. SUMMARY OF OPERATIONS

Glenaire - 1 was spudded at 08:00 hrs on the 8th of September 2006, using Ensign Rig 32. 17½" Surface hole was drilled to 307m. 13 3/8" casing was run and cemented with the shoe at 304m, on the 9th of September 2006.

The 12¼" hole reached intermediate casing point at 1255m on the 14th of September 2006; with 9 5/8" casing being set at 1252m and cemented in the early hours of the following day.

8½" hole was drilled to 3002m, when the well was logged and 7" casing was set and cemented with the shoe at 2999m on the 25th of September.

The expected final hole section was drilled with a 6" bit to 3306m, at which depth the well was plugged back to 3041m due to deviation problems.

The 6" hole on the sidetracked well was drilled to a total depth of 3701m on the 27th October 2006. The well had already been logged at 3700m, and after the extra metre had been drilled, extra logs were completed before running and cementing a 4-1/2" Liner on the 31st October 2007.

Drill water was pumped from a bore on site and at the beginning of operations, this supply had the following properties :

pH	:	7.8
Chlorides	:	530 mg/l
Pf/Mf	:	0.0 / 0.33
Hardness	:	320 mg/l

HOLE SIZE : 17½" Surface Hole
MUD TYPE : Fresh-water Gel Spud Mud
INTERVAL : 0 – 307 m
CASING : 13-3/8" @ 304 m

While the rig-up was being completed, 536bbls of 21ppb Bentonite / Caustic Spud Mud was mixed in the pre-mix and suction tanks and stored in all surface tank sections. Both Derrick FLC-514 shale shakers were fitted with 4 Pyramid 84-mesh screen panels each.

A new tri-cone bit with 3x20 jets and one size 16 centre jet installed, was made up to spud the well at 08:00 Hrs. Used the prepared Bentonite spud mud with a 60 second viscosity.

The 8" collars and the first few 6½" collars were slowly drilled down through the surficial sands, using a reduced pump rate (240gpm), to prevent washing out the

conductor shoe at 12m RT. At a depth of 38m, the first indications of down-hole mud losses were observed and Kwikseal Coarse LCM was added to the system.

At a drilled depth of 48m the first deviation survey was run. Drilling resumed with the mud losses continuing and averaging 50bbls/hour. LCM pills were now being prepared with a concentration of 12ppb LCM, using both fine and coarse Kwikseal. 20bbls of the resulting fluid was spotted on bottom prior to each stand of drill collars - and later HWDP - being made up.

This routine was carried through to the 3 stands of 4½" DP being used and casing depth being reached. The losses continued at a marginally reduced rate, even after change of formation was encountered just below 200m.

Observing the amount of material being discharged at the shale shakers, large amounts of unconsolidated sand were carried from the hole. This must have resulted in substantial hole enlargement of some sections of this interval.

To minimise this occurrence, the viscosity of the drilling fluid was intentionally kept higher, that what would have normally been the case for surface hole. Thus quite a lot (672sx) of Bentonite was used for this interval. Below 200m the situation stabilised somewhat, but the circulatory losses seen in this hole section never fully healed.

After the 6½" drill collars had been buried, the pump rate was increased. However the envisaged pump-rate of 990gpm was not realised. The massive amounts of un-consolidated sands being circulated out also caused screen blinding. This resulted in run-off at the shakers, when the circulating rate was increased above 775gpm.

The solids control equipment on this rig consists of two Derrick FLC-514 shakers and a Derrick DE-1000 centrifuge. Desander and desilter are not part of the solids control system. At a depth of 76m, the centrifuge was placed on-line, working very well and assisting in keeping the fluid density below 9.1ppg, by discarding an average of 2gpm underflow with a density of better than 15ppg. The centrifuge was kept running for eighteen hours, until the completion of the wiper-trip at casing depth.

Casing point had been reached at 307m with the drilling fluid having a density of 9.0ppg and a funnel viscosity of 48sec. The hole was circulated clean and a 20bbl LCM pill spotted on bottom. Made a wiper trip to surface and laid out 17½" stabiliser. Ran back in the hole without problems and found no fill. Circulated bottoms up and after spotting a last LCM pill on bottom, POOH for casing.

Rigged up for running casing and ran a total of 27 joints of 13 3/8" casing. The circulating swage was installed on each of the last two joints, but was not needed. The casing was run right to setting depth, without circulation being required.

Circulated the hole clean, pumped 60bbls of water and prepared for cementation. The casing was cemented and after dropping the plug, the cement was displaced with fresh water.

Full returns (based on pit-level measurements) were observed throughout, but neither water spacers nor cement were returned to the surface. A cement top-up was carried out after the bradenhead had been installed. While WOC, the tanks were dumped and cleaned. A new 5% KCl/PHPA/Polymer fluid system was then prepared for drilling the 12¼" hole.

HOLE SIZE : 12¼"
MUD TYPE : 5% KCl - PHPA - POLYMER
INTERVAL : 307m to 1255m
CASING : 9 5/8" @ 1252m

To drill the 12¼" interval, 550 bbl of 6% KCl brine were prepared, to which Caustic Soda (0.1ppb), Pac-L (0.75ppb), Xanthan Gum (0.75ppb), PHPA (0.5ppb) and Biocide (0.2ppb) were added. All tanks were filled, with the exception of the pill tank. This tank was partially filled with water, to provide a source of water while testing the BOP stack. It was also intended to later receive the water displaced out of the hole by the drill string, when RIH. The shaker screens configuration remained unchanged, with 84-mesh Pyramid screen panels installed in all positions. One defective panel at the inlet end of each shaker had to be replaced.

Made up new 12¼" BHA and this was run in the hole on 4½" pipe and the top of the cement tagged at 292m. The shoe track was drilled out, using lease water and utilising a short surface system. This consisted of only the pill tank. Cleaned out rat-hole to 307m and displaced to newly mixed KCl/PHPA/Polymer fluid. The water used to drill out the shoe-track was dumped. Made new hole to 310m, circulated hole clean and carried out formation integrity test with 8.8ppg fluid in the hole.

The test indicated that the casing seat would support at least an equivalent mud density of 12.0ppg.

Resumed drilling with a circulation rate of 90spm on two pumps, delivering 545gpm. Below 340m losses of fluid to the formation began to reassert themselves. Added Kwikseal Medium LCM to the system in an attempt to control these losses. At around this depth the centrifuge was also put on line, discarding between 1.5 and 2.5 gpm of concentrated solids, weighing up to 16.5ppg. The equipment returned to the system about 50gpm of 8.7ppg fluid.

Although the centrifuge was used full time, the fluid density increased slowly to 9.1ppg. At this point of time, all shaker screen panels were changed from Pyramid 84-mesh to Pyramid 110-mesh.

Recycling of fluid from the sump was carried out. However the poor delivery rate of the pump used made that effort too time consuming, when extra volume was needed quickly. This was the case in the early stages of this interval, when fluid losses up to 60bbls/hr were observed. During that time, the recycled water supply had to be augmented with bore water.

Premixed KCl/PHPA/Polymer fluid was prepared in the pre-mix tank, using about 2/3rds of recycled fluid and 1/3rd bore water. The finished product was then bled across into the active system at a choice of three outlets. Once the mud-loss situation eased, it was possible to prepare the premixed volume pills solely with fluid recycled from the sump.

Drilling continued to 884m, at which depth a Xanthan Gum-based HiVis pill was mixed and pumped around. Mixed and pumped a heavy Barite pill and prepared for a check trip.

POOH with the first few stands pulling tight with over-pull to 20K lbs being observed. This eased however and the string was pulled back without further problems to 270m. Ran back in the hole and resumed drilling.

The continued increase of the fluid density (9.3ppg) and sand content (1¾ - 2%) prompted a review of the installed shaker screens and it was decided to replace the screen on the Nr 1(LH) shaker with 175-mesh. This had an immediate effect on the sand content, which dropped to 1% and prevented any further increase in the fluid density.

In the meantime, the down-hole fluid-losses had also eased and practically full returns were being observed. Drilling continued and the well was pronounced to be at casing depth at 1255m.

Mixed and pumped a 0.4ppb Xtra-Sweep and circulated around before starting a wiper trip. On several occasions tight hole was observed, maximum over-pull recorded was 35K lbs. Pulled back to 864m, before RIH to 1221m, at which depth the hole had again become tight. Worked through to bottom and pumped remaining sweep.

Circulated hole clean and POOH for casing, after pumping a Barite-based heavy pill. The pill tank was then cleaned out and filled with bore water to be on hand as spacer to be pumped before the cement job.

When POOH, tight hole conditions and swabbing was seen around 1114m. Worked tight section and continued to pull out. Laid out stabilisers and 2 x 8" drill collars.

Rigged up for and ran 9 5/8" casing to 1229m. The remaining two joints were washed to the setting depth of 1252m. The hole was circulated clean, while

reciprocating the casing string. At the end of the circulation 50bbls lease water were pumped as a spacer.

Rigged up Halliburton, pumped cement and displaced with 311bbls drilling fluid, utilising one of the rig pumps.

At the completion of the cement job, the KMC-Oiltools centrifuge was run and the fluid volume at surface circulated and processed. This was done for 26 hours, with a view of reducing the sand content and the accumulated micro-fine drill solids.

During this time the screens on shaker Nr 1 were changed from 175 to 210-mesh and the mud pumps liners were changed from 6 to 5 inch.

HOLE SIZE : 8½" hole section
MUD TYPE : 5% KCl – PHPA – POLYMER
INTERVAL : 1257 – 3002m
CASING : 7" @ 2999m

With the final tests on the BOP stack completed, extra 4½" pipe was picked up, made up into stands and racked in the derrick. Made up the 8½" BHA, starting with a new Hycalog PDC bit with 5 of size 12 jets.

Picked up additional DP singles and eventually RIH on stands to just above the float collar. Slipped and cut drilling line and continued in the hole to tag cement at 1239m. The surface system had been shortened, by by-passing all major tanks and directing the returns to the pill tank, which acted as suction tank, while drilling out cement.

The fluid in the active part of the system, as well as the isolated volume, had been pre-treated with Soda Ash and Citric Acid, the stored fluid also with Sodium Sulphite, PHPA and Biocide. Thus the effect of the cement contamination, when it did happen, was minimal. It manifested itself in increased viscosity and gel strength and a marginally higher fluid loss (9.8cc/30min). None of the values were extreme. A maximum pH of 12 was measured. Drilled out the shoe track, cleaned out rat-hole and drilled to 1258m. Circulated hole clean and rigged up to conduct Leak-Off test.

This was carried out with 9.1ppg fluid in the hole and leak-off was established at 1000psi applied pressure. The casing-shoe fracture rating was calculated as 13.7ppg equivalent MW.

While drilling the upper part of this interval, the drilling fluid was treated with Soda Ash to reduce the Calcium level, Citric Acid to lower the pH value from 12.0 and Pac-L to reduce the fluid loss. These treatments alleviated the effects of the cement contamination. Sodium sulphite continued to be added to the system, to

reduce the oxygen level and therefore the corrosivity of the fluid in view of the better than 5% KCl concentration.

Drilling was halted at 2154m, the hole circulated clean, a heavy, Barite-based pill mixed and pumped and a wiper trip made back to the 9 5/8" casing shoe. Hole conditions were good, no problems were experienced when RIH to 2125m. Reamed and washed to bottom and resumed drilling.

Plans were to drill through to ~2470m for the next check trip. However at a depth of 2288m, the deviation had increased to 5°, the direction being N10E. The next deviation reading was recorded at 2374m, after reaching a depth of 2386m. The angle had further increased to 6° in nearly the same direction. The decision was made to switch to a pendulum type BHA. Mixed and pumped a Barite-based heavy pill and POOH to surface.

RIH with the same bit and mud motor, but modified the BHA, by taking out the NB Stabiliser and one string stabiliser. One string stabiliser remained in the BHA, positioned 28m above the bit. Then picked up 57 lengths of 4½" DP and continued to RIH.

Washed from 2353m, found 5m fill, reached bottom at 2386m and resumed drilling.

Treatment of the drilling fluid continued in the established manner. Premixed volume pills with a net volume of 100bbls were prepared on an ongoing basis and added as required to maintain a comfortable active surface volume of between 350 and 450 bbls. Sodium Sulphite was added direct to the system at the Suction tank. With low-end rheology sufficiently high it was possible to first reduce Xanthan Gum treatment and eventually phase it out, while drilling 8½" hole and approaching casing depth.

This point was reached at 09:00 hrs on the 23rd September at a depth of 3002m. The hole was circulated clean, a heavy Barite-based pill mixed and pumped and a 20-stand wiper trip made back to 2324m. Ran back in the hole, washed to bottom from 2889m and found 4m fill. Circulated hole clean, mixed and pumped a second heavy Barite pill and POOH for E-logs.

Rigged up Schlumberger and commenced logging run. Tools went to bottom, but calliper tool failed early in the run. At the completion of logging run, Schlumberger was rigged down and the 8½" BHA (minus the mud-motor) made up and run in the hole. Washed to bottom and circulated hole clean. Mixed and pumped heavy Barite pill and POOH, laying down entire 4½" drill string and 6¼" / 8½" BHA.

Rigged up for and ran 7" casing. The last joint of casing was washed down and at times high circulating pressures were observed. Appreciable amounts of cavings came over the shakers and on bottoms up, a maximum gas reading of 4700 units was recorded.

Circulated until the gas readings had dropped below 400 units and the cavings had substantially reduced. At this point 130bbls of drilling fluid, that had been specifically treated to increase both the biocide and Sodium Sulphite concentration, was pumped and that was followed by a cement pre-flush. This consisted of 30bbls lease water, to which 6 sacks of KCl, 20lt Biocide and 7kg of Sodium Sulphite had been added.

After the cementing head had been installed, the casing was cemented and displaced with mud. WOC.

HOLE SIZE : 6" hole section
MUD TYPE : 5% KCl – PHPA – POLYMER
INTERVAL : 3002m – 3306m
CASING : Plugged Back

The cement job was followed by the re-installation of the BOP stack. During this time, the drilling fluid at surface was treated with 0.6 ppb PAC-L to reduce the fluid loss and 0.44 ppb Soda Ash was added as a pre-treatment for the expected cement contamination, when drilling out the shoe track.

Made up the new BHA, starting with a 6" Hycalog PDC bit, fitted with 5x14 jets. Total length of the BHA came to 282.20m. This was run in the hole on 3½" pipe.

RIH to 2953m, washed down to 2963m, where the top of the cement was found. Drilled out top plug and cement to 2981m using shortened system, in which the flow from below the shakers was directed via the trough to the pill tank, which was set up as active tank for that operation.

Circulated hole clean and conducted a casing test during which 3500psi were applied and held for 10 minutes. Drilled out remaining cement, bottom plug, float-collar and shoe track. Cleaned out rat-hole to 3002m and made new hole to 3005m. Circulated hole clean and conducted formation leak-off test with 9.5ppg fluid in the hole. Leak-off occurred at 2200psi, giving the casing seat a calculated fracture rating of 13.9ppg equivalent MW.

Resumed drilling and after an initial stretch of good ROP, the drilling slowed down markedly and the conclusion was reached that the bit had balled up. Mixed a 30bbls 9.3ppg KCl-pill, using bore water and 36sx KCl, and pumped around. This cleared the bit and acceptable rates of penetration were obtained again.

At a depth of 3156m a gas peak of 4260 units was recorded by the logging unit. Drilling was halted and a flow-check carried out. Eventually the well was declared static, but the decision was made to raise the fluid density. KCl was used for that purpose and 378sx KCl added to raise the system WT to 9.8ppg. Even with the elevated fluid density further gas peaks of up to 2600 units were seen.

Drilling continued, but at a depth of 3230m was halted, the hole circulated clean and the bit pulled back inside the 7" casing to 2981m. Waited on orders and then on the arrival on location of directional drilling equipment and personnel.

During this time various servicing jobs on the rig were carried out. The waiting period was also used to treat the surface mud volume with PAC-L in an effort to further reduce the fluid loss. This was done with a view to bring that parameter back in line with the specifications for this interval.

With arrival of the directional equipment confirmed, ran back in the hole from 2981m to bottom, found no fill and circulated hole clean. Recorded 3000 units gas. Mixed and pumped a heavy Barite pill and pulled the drill string from the hole.

Make up new BHA and RIH to 2980m, breaking circulation @ 1100m + 1900m. Slipped and cut drilling line at 2900m and RIH to 3209m, washed down to bottom and circulated bottoms up. Recorded 3900 units gas. Carried out a deviation survey @ 3198m - 9¾°N10W.

Resumed drilling and continued to 3242m, when the first of a series of surveys was run. This first DS from 3227m recorded a near identical reading to the result of the previous survey at 3198m:

At 3227m the first of several deviation surveys was carried out:

Drilled depth	Survey depth	Reading
3230m	3198m	9¾°N09W
3253m	3236m	11¾°N08W
3267m	3256m	14½°N02E

Oriented tool and re-surveyed at the same depth:

3267m	3256m	15½°N05E

Resumed drilling and took two more surveys:

3287m	3276m	18½°N07W
3306m	3294m	20½°N03W

When drilling at 3294m, with a fluid system weight of 10.0ppg, a gas-peak of 4300 units was recorded. Flow-checked the well and found it to be static. The gas-peak resulting from this flow-check measured 4100 units. At this point it was decided to raise the fluid density to 10.2ppg. A further flow-check confirmed that the well was static. The maximum gas-reading after this second flow-check reached only 3300 units.

Drilling resumed and a depth of 3306m reached. Flow-checked the well (static) and broke the stand at this depth to conduct a further survey. The result was a reading of 20½°N03W. As this meant having reached the limits of the instrument

and also the well path having reverted to the original northerly direction, the decision was made to plug back and side track.

Circulated the hole clean, observing a maximum gas-reading of 3660 units. Mixed and pumped a heavy Barite pill and POOH to surface.

A cement stinger was run in the hole on 3½" DP to bottom, under good hole conditions. Circulated hole clean and recorded 4000u gas. 25bbls of Xanthan Gum based HiVis pill had been mixed, 15bbls of that was now spotted on bottom and the string pulled back to 3128m.

Rigged up Halliburton and pressure-tested lines. Mixed and pumped cement slurry and displaced with water, followed by drilling fluid. Pulled back into the 7" casing to 2985m and circulated conventionally. No cement was seen at the flow-line, however some of the water-spacer was circulated out. Recorded a maximum of 820u of gas.

Pulled cementing string from the hole and laid out stinger. Made up Bit and BHA and RIH to 2992m and circulated out trip gas. After further waiting on cement, the bit was run down to 3037m where it took weight. The bit was pulled back to 2992m and the well was monitored while circulating through the trip tank.

The bit was then washed back to bottom and bottoms up was circulated with no gas readings seen. A pill was pumped and the pipe pulled from the hole. A bit, MWD tools and BHA were made up ahead of drill pipe and run in the hole to 3041m.

Circulation was established but attempts to get a signal from the MWD tools proved futile.

A heavy slug was pumped and pipe was pulled from the hole. The tool was re-set and run back in the hole. Again attempts to get a signal from the MWD tools proved futile.

The tools were pulled from the hole and laid out. Pipe was run back in to 256m and the hole slowly circulated while waiting on another set of MWD tools. When these arrived, they were made up and run in the hole.

HOLE SIZE : 6" Side Track
MUD TYPE : 5% KCl – PHPA – POLYMER
INTERVAL : 3041m – 3701m
CASING : 4-1/2" Liner

After tagging cement, new hole was made by sliding / drilling with the directional assembly. A fresh premix was built to re-establish mud properties – extra Pac-LV was added to reduce the fluid loss back to around 7 cc's while maintaining a relatively low yield point (around 6 – 8 lb/100ft² at this stage) so as to minimise pressure losses inside drill pipe. The centrifuge was run and along with the fine 310 mesh screens on the shale shakers, the mud weight was allowed to slowly drop back from 10.2 ppg.

At 3119m the bit was tripped. The new bit was run in the hole but at 264m, the Monkey Board flaps were bent by the Top Drive and this had to be fixed and inspected before drilling could resume.

After repairs and associated work had been completed, drilling resumed after washing to bottom.

After experiencing high gas readings at 3127m, with an associated mud weight of 10.2 ppg, the weight was increased with salt to 10.3 ppg. Salt was used as it did not require high yield points for suspension. A premix built after was also weighed up to 10.3 ppg. As further un-viscosified premix was added, the yield point at this stage was around 5 – 6 lb/100ft². However, hole cleaning appeared good as the annular velocities were quite high.

Drilling / sliding continued to 3182m where bottoms up was circulated. A slug was pumped and pipe was pulled. A flow check at 2991m indicated that the well was flowing slightly. Pipe was pulled further to 2846m, and a flow check there also indicated that the well was flowing slightly. After pulling to 2729m, the procedure was repeated with the same results.

Pipe was subsequently run back to bottom and the weight was increased to 10.5+ ppg with salt. Gas peaked at 4000 units, along with an oil show, on bottoms up. A flow check with 10.5+ ppg mud showed a static well.

Pipe was then pulled and the MWD tools were serviced. A new bit was run in the hole. The hole was circulated at the shoe and 600 units were recorded on bottoms up. The bit was then run to bottom and drilling resumed. A gas peak of 3445 units was seen on bottoms up.

At 3207m, a gas peak of 4000 units along with crude oil cut mud was seen at the shakers. The mud was circulated and weighed up to 10.8+ ppg. The well was then shut in and circulated through the choke as the weighing up process continued with salt. As mud weights were being taken continuously, it was seen when the mud

reached saturation point as salt was no longer dissolving into the mud. Barite was then added to reach the 10.8+ ppg weight, although not much was required.

With the mud weight at 10.8+ ppg, the annular preventer was opened and the well was seen to be static. An attempt was made to circulate but in the time between stopping circulation to open the annular preventers and trying to break circulation again, undisolved salt had settled out in the BHA and further circulation was not possible, despite attempts to regain it. As a consequence, the pipe was pulled wet from the hole.

With the mud's salinity at saturation, and the chlorides at 183,000 mg/l, the mud had thinned out further and the yield point was now 4 lb/100ft². When out of the hole, salt was found to have blocked off the BHA up to the 2nd stand of heavy weight drill pipe.

Once the salt had been cleaned out, pipe was run back in the hole. Bottoms up was circulated at the shoe with 2500 units seen. Pipe was run further to 3007m where fill was tagged, assumed to be salt. This was lightly washed to bottom and drilling continued.

At 3217m, 4956 units of gas were recorded and so the mud was weighed up further to 11.0 ppg with barite, and then maintained in the range of 11.0 – 11.2 ppg. The yield point was increased somewhat also to 6 – 8 lb/100ft² using Xanthan Gum. Essentially, the level that the yield point was run was a compromise between minimising friction loss (which requires low yield points) and reasonable suspension, which requires higher yield points. As a consequence, some settling of barite was expected.

Drilling continued and while doing so, extra volume was built and weighted up to the required 11.0 ppg. It was thought that fractures in the formation could materialise and lead to substantial losses, so the extra volume was insurance against loosing (or partially loosing) circulation.

As drilling continued, it was found that gas peaks corresponded to periods or times when the pump pressure was reduced (eg. when picking up off bottom or when the pumps were stopped), thereby reducing the ECD – effectively taking the "ECD portion" of the hydrostatic off the formation.

At 3358m, the mud weight was increased further to 11.3 – 11.4 ppg as background gas levels appeared to be slowly increasing.

Extra Pac-LV was added at this stage as the fluid loss was showing a trend to slightly increase. KCl additions also continued (albeit slowly) as the mud was now below saturation levels and there were indications that some depletion of Potassium was occurring.

Drilling / sliding continued to 3386m, where a connection was made. Tight hole was experienced at 3385m with 40k overpull. Bottoms up was circulated and a wiper trip was initiated. Tight hole was seen at 3280m (25k over-pull), so pipe was pumped out to 3251m. The hole was very tight at 3259m with over-pull of 50k being recorded. The remainder of the pipe was pulled to the shoe and then run back in again. The hole was washed and reamed to bottom from 3222m, with over-pull of 25k being recorded again at 3385m.

Drilling / sliding continued to 3445m, where rapid losses to the hole occurred. Losses of 20 bbl / hour were recorded initially. Kwikseal Fine (LCM) additions were made and losses soon slowed but remained sporadic, however at a lower level, so they were no longer a big concern.

The bit was tripped at 3507m. A heavy slug was pumped and the pipe was pulled. Due to ongoing large gas peaks from the zone at 3192m, a 60 bbl weighted slug was spotted in the 7" casing from 2000m. This gave a hydrostatic pressure at 3192m equivalent to 13.5 ppg mud.

After changing out the bit, pipe was run back in the hole. Circulation was broken at 1122m and then later at 2575m, at which stage the heavy weight pill that was spotted earlier, was circulated out and stored in the pill tank for future use.

The hole was washed and reamed 20m to bottom finding no fill. As drilling continued, the heavy weight pill was blended in with premix used to increase the active system volume to close to maximum. This was done as a precaution against loosing circulation as the Geologist had advised this was a definite possibility.

As the ROP appeared to be poor, two x 5 bbl KCl – Caustic Soda slugs were pumped in case bit balling was the cause. No significant improvement was observed. The mud weight was slowly reduced down to 11.2 ppg during this bit run.

The bit was again tripped at 3564m. Tight hole was experienced from 3510m – 3505m (50k over-pull), 3505m – 3190m (25k over-pull) and 3190m to the shoe (15k over-pull). After changing out the bit and mud motor, pipe was run back in again, hanging up at 3510m. The bit washed and reamed to bottom prior to drilling ahead.

By this stage, the mud system was very stable. The premixes being added were simply maintaining properties. The yield point averaged between 8 – 12 lb/100ft² and only climbed as far as 13 lb/100ft² by TD. The fluid loss remained stable at 5 – 7 cc's but as the well's depth increased, more Pac-LV was required to keep it in check. The KCl level dropped as far as 7% but was re-established at 8% and was kept at that level through to TD.

Although very little viscosifying polymer was being added, the overall rheological readings were increasing slowly as TD approached. This did not really have an

adverse effect on pump pressure, but did increase the ECD somewhat, perhaps leading to greater invasion of mud into fractures while drilling/circulating.

A wiper trip back to 3487m was conducted at 3641m. While drilling through to this depth, the mud weight had been allowed to drop to 11.1 ppg, with other properties remaining stable. Tight hole was experienced from 3602m – 3592m, 3563m – 3554m and 3515m – 3506m. When running back in the hole was in good condition.

Drilling continued. After a minor drilling break at 3672m, losses of around 35 bbls occurred. These losses soon reverted back to the more "normal" seepage type losses seen earlier. At 3688m, a connection was tight (65k over-pull).

The pump rate was also cut back to 95 spm (200 gpm) to slow the mud motor, hoping to improve the ROP. Due to the cut in pump rate, the yield point was allowed to increase somewhat as the ECD was not as high, leading to better barite suspension.

As the likelihood of massive lost circulation was seen to be past, mud tank volume was allowed to drop as maintaining high volume levels was fairly expensive. (Each weighted premix cost around $6,000 - $7,000.)

As Total Depth approached, the pH was slowly increased to 9.5 – 10.0 and extra biocide was added, in anticipation of extended logging runs.

Drilling continued to a total depth of 3700m. After circulating the hole clean, a wiper trip to 3400m was made, experiencing tight hole with 40k over-pull. After running in and circulating bottoms up, a gas peak of 3000 units was seen.

Pipe was then pulled and when at the shoe, a heavy weight slug was pumped. After pulling out further to 1000, 60bbls of a slug weighing 14.5 ppg was pumped into the annulus. Once pipe had been pulled above the top of the slug it was expected that the extra weight of this slug would give a hydrostatic at the shoe equivalent to 11.6 ppg.

Two runs of electric logs were then made. Minor seepage loss to the hole was seen during logging. Once finished, a bit was run back in the hole. At 1200m, the heavy weight pill that was spotted in the casing was circulated out and stored in the pill tank. Bottoms up was again circulated when at the shoe. The bit was then run to 3652m, from where the hole was washed to bottom. A further metre of hole was drilled and the hole was circulated clean. The mud weight had remained steady at 11.2 ppg.

A flow check was then conducted, but the well seen to be flowing. (Gas readings indicated that the well was flowing from the interval just drilled rather than from the pressured zones higher up in the 6" section.) The mud weight was then increased incrementally through to 12.4 ppg. Barite was used initially, but as stocks reduced, calcium carbonate was later used. As the mud weight increased, losses to the

fractures in the well increased so the calcium carbonate also acted as an LCM. In total, approximately 197 bbls were lost downhole in this period. Kwikseal Fine was also added when losses appeared to be more rapid and had a positive effect. Shaker screens were also down graded from 310 mesh to 84 mesh to prevent stripping out weight material.

A flow check at 12.4 ppg found the well to be static, so a 30 bbl pill weighing 14.5 ppb was spotted on bottom. The pipe was then pulled with regular flow checks indicating the well was dead. Tight hole was worked (65k maximum over-pull) from 3672m – 3250m while pulling out.

Further logs were then run and completed. A bit was run back in and circulated bottoms up at the shoe, recording 312 units of gas. Pipe was run in further to 3394m, from where the hole was washed to bottom. The washing to bottom was not due to hole conditions, but rather to space out the heavy weight pill that was in this section of hole to TD. It was thought that running to TD and then circulating up the heavy pill may have led to losses to the thief zones. As it was, losses were a little higher when the pill was circulated up and the losses tapered once the pill was out of the hole.

Once bottoms up had been circulated, a further 30 bbl, 14.5 ppg pill was spotted on bottom prior to pipe being pulled. Regular flow checks were made on the way out of the hole.

The 4-1/2" liner was then run in the hole. While this was happening, a further 118 bbls of weighted premix was built as "insurance" against any further major losses down hole.

The liner was run in the hole and at the shoe, bottoms up was circulated. It was then run further to 3609m, where the heavy weight pill in the hole was circulated up to the shoe. The liner was then run further to 3694m, where the hole was circulated clean.

The cementing head was made up and the cement job was conducted. Significant mud losses were experienced while pumping both Halliburton's "tuned spacer" and the cement, totalling approximately 195 bbls throughout the period.

The cement head was rigged down and the well circulated bottoms up (above the liner). A flow check then found the well to be flowing. As a consequence, 55bbls of 14.5 ppg mud was spotted at 2879m, the liner top. A further flow check still found the well to be flowing, the well was shut in "hard". Due to the significant downhole losses, a further 95 bbls of 11.4 ppg mud was built at surface.

After monitoring pressures, the annular preventer was opened and a flow check found the well to be static. Pipe was then pulled from 2879m to surface.

Drill pipe was run in the hole to 2793m and circulated. A CBL run was then made. Bottoms up was circulated and 3035 units of gas were seen, as well as the well slightly flowing. 50 bbls of 14.5 ppg mud was then spotted at this depth. A flow check found the well static.

Pipe was then pulled sideways from the hole. After running 31 stands of pipe back into the hole, a flow check found the well to be flowing slightly at 2037m, so a further 40 bbls of 14.7 ppg mud was spotted at this depth. 6 stands were pulled (above the heavy slug) and a flow check found the well static. Pipe was pulled out sideways to 1223m, where 4 stands plus the BHA were run back in to 1564m. A flow check at this time again found the well to be flowing. The well was shut in and monitored. After opening the well back up, bottoms up was circulated and 40 bbls of 14.7 ppg mud was spotted from 1564m up.

Pipe continued to be laid out to surface. The floor was then rigged up and 2-7/8" tubing was run. When run to the appropriate depth, pressure tests were successful and the hole was displaced to a 3% brine. All mud was saved (in case required) but was later dumped when the tubing displacement was successful. The mud engineer was subsequently released.

2. OBSERVATIONS & RECOMMENDATIONS

Glenaire # 1 & 1ST was drilled to a total depth of 3701m for a mud cost of $219,519.68 or $59.31 per metre. The majority of the mud cost involved weight material used in the 6" hole sections.

The well was drilled essentially trouble free through to the 6" hole section. Deviation and pressure control issues were the main problems seen in this section, although the KCl PHPA based Drilling Fluid did maintain excellent hole conditions.

Overall, the Fluid types used for each section worked well and few changes are required, although minor changes to aspects of the fluid used in the 6" hole will be reviewed.

Solids Control

With two Derrick FLC 514 shakers and a Derrick DE 1000 centrifuge and the absence of any hydro-cyclone type equipment, the solids control on this rig presented a less than typical configuration.

However the equipment worked very well, with pyramid type screen panels up to 310 mesh being utilised on the 6" hole. It was only while drilling the 12-1/4" hole that solids became problematical with the sand content rising to almost 2%. Since the shakers are the only item of solids control equipment that process the ***entire*** flow rate, any solids that pass through the shaker screens are unlikely to be discarded by the centrifuge, as that piece of equipment only processes a small percentage of the total flow.

Never the less, even when there were problems with the sand content, all that was really required was that the shaker screens be upgraded (as they were) for the sand content and consequently the mud weight, to drop.

Some problems were also noted on surface hole as the high flow rate along with shaker screen blinding caused some run off – however it was found that keeping the pump rate at 775 gpm instead of the programmed higher rate of 990 gpm kept most of the fluid on the shakers.

Overall, the Solids Control equipment was well run by the dedicated KMC Oiltools hands.

17-1/2" Surface Hole

This section of hole was drilled to 307 m for a mud cost of $12,286.81 or $39.70 per metre. Ausben (API bentonite) was the main additive to maintain a good viscosity / yield point for good effective hole cleaning. Hole conditions were good, so the main aim of the fluid was realised.

Significant downhole losses were expected and were experienced, up to 50 bbls / hour at times. In total, 911 bbls of mud were lost to the formation and 69 sacks of Kwikseal (both Coarse and Medium grades) were used to control the losses. The Kwikseal did work at keeping the losses manageable.

When cementing, cement did not return to surface. This could have been due to a combination of washed out hole (the sandy formation was not overly consolidated) and cement going into the sandstone formation. It is doubtful whether higher yield points would have prevented the formation from washing out in any case.

12-1/4" Intermediate Hole

This section was drilled with a KCl PHPA based fluid through to 1255m for a mud cost of $35,026.31 or $36.95 per metre. No significant problems were noted and the fluid worked well. As mentioned, there were minor problems with mud weight and the sand content, but when finer shaker screens were fitted, the sand content reduced, as did the mud weight.

Significant losses were experienced at 340m – up to 60 bbls / hour initially. Kwikseal aided in reducing the losses. To rebuild volume, both sump water and bore water were used – recycled sump water was preferred but the supply pump from the sump was not quick enough. Later in the interval, when losses eased, only sump water was used to build premixes.

8-1/2" Intermediate Hole

This section was drilled with a KCl PHPA based fluid through to 3002m for a mud cost of $25,975.47 or $14.97 per metre. The low cost for this interval was due both to the fact that, a) the mud system was already up and running from the previous interval and only required minor adjustment, and b) the relatively low dilution rate of 0.5 bbl / per metre.

The cement from the previous casing string was drilled out using mud, so the cement contamination experienced was treated out by using soda ash to reduce hardness levels and citric acid to reduce the pH.

Prior to drilling out, the centrifuge was run for 26 hours to reduce the sand content and to reduce overall solids as much as possible. Once drilling ahead, extra Pac-

LV was required to reduce the fluid loss back to around 7 cc's, as the cement had affected this parameter.

However, once the system settled down, maintenance was fairly simple with Xanthan Gum being added for yield point, Pac-LV for fluid loss, and PHPA and KCl for inhibition. Sodium sulphite was continually added to reduce the fluid's dissolved oxygen levels to prevent / reduce corrosion and biocide was added to protect the fluid against bacterial contamination due to continually recycling sump water.

As with the previous interval, the KCl PHPA based fluid worked well as hole conditions were generally excellent.

6" Hole Sections

The initial 6" section through to 3306m was drilled for a mud cost of $26.653.25 or $87.68 per metre, and the sidetracked section was drilled from 3041m to 3701m for a mud cost of $119,677.84 or $181.84 per metre.

The same KCl PHPA based fluid used for the previous hole section was used to drill ahead in the 6" sections. The main difference though was that the yield point was allowed to reduce to 9 – 12 lb/100ft² in the initial section of hole, and 4 – 8 for most of the sidetracked section of hole. The yield points were lowered due to high pressure losses in the drill pipe – higher yield points would have led to undesirably high pump pressures.

Despite the lower yield points, hole cleaning was never an issue due to the high annular velocities. Since it was planned to run low yield points, it was also planned that mud weight increases would occur with a combination of KCl and NaCl, as these salts were soluble and would not require higher yield points for suspension as barite or calcium carbonate would. At the time it was not expected that mud weights would have to be increased past the solubility limits of the salts.

The added benefit of running these lower yield points in the 6" hole was that the ECD (Equivalent Circulating Density) was lower than if higher yield points had been used.

However, as it turned out, the required mud weight increases did have to go past the solubility limits of both KCl and NaCl, so barite was eventually used. Calcium carbonate was also used after TD as weight material. As TD approached, the yield point was allowed to increase slightly to give better suspension properties.

The increased yield point perhaps had one minor draw back in that the ECD for any given mud weight was slightly higher than for lower yield points earlier.

There were many instances of tight hole, mainly while tripping and mainly in the sidetracked hole. In general, it was thought that most of the tight hole was due

mainly to the wellbore's fairly convoluted path, as directional control earlier in the interval was extremely difficult and kept requiring remedial action to keep the well bore travelling in the correct direction. As such, drag was the main offender with respect to the tight hole seen.

Mud Weights, Pressure Control and Downhole Mud Losses

Apart from deviation problems and slow ROP's, the major problems during this hole section concerned pressure control and associated issues.

After commencing drilling of the initial 6" section, the mud weight had to be increased from 9.5 ppg to 9.8 ppg and then soon after to 10.0 ppg after high gas readings at 3156m. High gas peaks at 3294m necessitated the fluid's weight being further increased to 10.2 ppg. Even with the higher mud weights showing the well to be static, high gas peaks continued, co-inciding with times when the pumps were switched off or the pipe being worked – and this occurred many more times in both this and the sidetracked hole section.

It was thought that a major reason for the high peaks was that while drilling / circulating on bottom, the ECD which typically was a minimum of 0.5 ppg higher than the circulating mud weight, would either keep the gas back or in fact slowly "push" mud into the same fractures that were possibly gas bearing. Then, when circulation stopped, the ECD portion of the hydrostatic would come off of the formation, either allowing oil / gas to seep into the hole (leading to the high gas readings on bottoms up) and / or some of the mud lost would also come back into the wellbore.

The mud and / or oil & gas that would seep into the hole manifested itself as a "flow", so that would often lead to a decision to increase the mud weight, perhaps thereby even exacerbating the pressure problems seen.

Perhaps the best demonstration of this phenomenon was after the 4-1/2" liner was set. The well had been seen to be flowing after the cement job. Due to the very small annulus, the ECD in the annulus (4-1/2" liner to 6" hole) was very high with the "tuned spacer" and cement that was pumped, and as a consequence it was thought that a lot of the spacer and cement were pumped into the formation, as around 195 bbls were lost to the hole during these operations.

The well was flowing after the cement job, not only indicating that the cement job itself was not successful, but that it was likely that the flow was the hole giving "back" some of the 195 bbls that had been pumped into the formation. A heavy weight pill spotted above the top of the liner "succeeded" in stopping further flow.

However, while laying out the string of drill pipe that had been run along with the liner, the well flowed twice. Each time it occurred was after stands had been run in (so they could then be laid out.) It appeared that the action of running the stands in

had surged the well somewhat, as flow checks immediately after running the stands in showed the well to be flowing. 40 bbls heavy weight slugs were pumped into the annulus each time, and each time the well stopped flowing.

Also to exacerbate the weighting up of the mud, especially after the well had been deepened from 3700m to 3701m, mud loses to fractures higher in the well occurred when the mud weight was increased. While increasing the mud weight from 11.1 ppg to the eventual 12.4 ppg, significant downhole mud losses occurred. These were eventually cured with LCM, but the lingering problem would be how much damage did these large volumes of relatively high solids mud do to any formations that were possibly hydrocarbon bearing.

Formation Damage

Throughout the drilling of the 6" Sidetrack, over 1000 bbls were recorded to have been lost downhole, presumably predominantly to fractures that may have been the source of hydrocarbons.

Of the amount of mud lost, approximately 400 bbls were lost after TD had been reached. Firstly losses occurred when the mud weight was increased from 11.1 ppg to 12.4 ppg after the last metre of hole had been drilled. The second lot of losses occurred when conducting the cement job on the 4-1/2" Liner. The high yield points associated with both the tuned spacer and the cement itself led to very high pressure losses in the liner / hole annulus, presumably "forcing" fluid into the formation.

Any damage caused by the mud losses to the formation / fractures would have been exacerbated by the LCM used and the mud's relatively high solids content. Although some acid soluble $CaCO3$ was used, it was a relatively small concentration compared to the amount of barite in the mud of for example, almost 160 ppb at the 12.4 ppg mud weight.

Recommendations for Future Wells

Only the 6" section of hole needs refining if future wells are to be drilled. The general make up of the mud was good – inhibition was maintained and hole conditions were very good from a mud perspective. (i.e. The instances of tight hole would not have been remedied by running a different style of mud.)

The main area that needs to be looked at is what type of weight material to use in future. If mud weights can be controlled under approximately 10.8 ppg with confidence, then a similar system can be used where a combination of salt and / or KCl can be used to increase mud density.

However, if higher mud weights are thought to be required, then a change in mud system may be necessary. As both Barite and $CaCO_3$ require some sort of suspension achieved by having higher yield points, this then leads to increased pressure losses in the relatively narrow drill pipe and higher ECD's.

Therefore, it is recommended that a Calcium Chloride ($CaCl_2$) based mud system be considered for future wells of this type. Calcium acts as an effective inhibiting agent (PHPA would not be used) and Xanthan Gum would still maintain the yield point, with Starch being used for fluid loss control.

Using $CaCl_2$, mud weights approaching 11.8 ppg can be achieved, prior to accounting for drilled solids which would bring the fluid weight up to 12.2 – 12.4 ppg with "typical" solids levels. If higher mud weights were then required, barite or $CaCO_3$ would have to be used but the amount of solid weight material would not be a problematical issue as far as suspension is concerned.

3.1 INTERVAL COSTS
Glenaire # 1

			17-1/2" Surface Hole			12-1/4" Intermediate Hole			8-1/2" Intermediate Hole			6" Production Hole			Glenaire # 1 Total Consumpton		
		Interval :	0 - 307 m			307 m - 1255 m			1255 m - 3002 m			3002 m - 3306 m			0 - 3701 m (TD)		
Product	**Cost**	**Unit Size**	**Used**	**Cost**	**%Cost**	**Used**	**Cost**	**%Cost**	**Used**	**Cost**	**%Cost**	**Used**	**Cost**	**%Cost**	**Used**	**Cost**	**%Cost**
AMC Biocide G	$ 185.35	25 lt				7	$1,297.45	3.7%	12	$2,224.20	8.6%	2	$370.70	1.4%	21	$3,892.35	3.9%
AMC Defoamer	$ 146.40	25 lt				4	$585.60	1.7%	1	$146.40	0.6%	2	$292.80	1.1%	7	$1,024.80	1.0%
AMC Pac-LV	$ 159.98	25 kg				28	$4,479.44	12.8%	44	$7,039.12	27.1%	45	$7,199.10	27.0%	117	$18,717.66	18.7%
Ausben	$ 11.25	25 kg	672	$7,560.00	62.0%										672	$7,560.00	7.6%
Baryte	$ 8.20	25 kg	48	$393.60	3.2%	72	$590.40	1.7%	168	$1,377.60	5.3%	225	$1,845.00	6.9%	513	$4,206.60	4.2%
Caustic Soda	$ 48.90	25 kg	7	$342.30	2.8%	9	$440.10	1.3%	7	$342.30	1.3%	1	$48.90	0.2%	24	$1,173.60	1.2%
Citric Acid	$ 73.25	25 kg				2	$146.50	0.4%	4	$293.00	1.1%	6	$439.50	1.6%	12	$879.00	0.9%
Class A Cement	$ 11.33	18.2 kg				22	$249.26	0.7%							22	$249.26	0.2%
Kwikseal C	$ 56.39	18.2 kg	45	$2,537.55	20.8%										45	$2,537.55	2.5%
Kwikseal M	$ 56.39	25 kg	24	$1,353.36	11.1%	24	$1,353.36	3.9%							48	$2,706.72	2.7%
PHPA	$ 118.90	25 kg				22	$2,615.80	7.5%	19	$2,259.10	8.7%	6	$713.40	2.7%	47	$5,588.30	5.6%
Potassium Chloride	$ 18.95	205 kg				628	$11,900.60	34.0%	372	$7,049.40	27.1%	471	$8,925.45	33.5%	1471	$27,875.45	27.9%
Salt	$ 8.65	25 kg										624	$5,397.60	20.3%	624	$5,397.60	5.4%
Soda Ash	$ 18.30	25 kg				8	$146.40	0.4%	30	$549.00	2.1%	22	$402.60	1.5%	60	$1,098.00	1.1%
Sodium Sulphite	$ 33.30	200 lt				10	$333.00	1.0%	19	$632.70	2.4%	9	$299.70	1.1%	38	$1,265.40	1.3%
Xanthan Gum	$ 359.25	25 kg				30	$10,777.50	30.8%	11	$3,951.75	15.2%	2	$718.50	2.7%	43	$15,447.75	15.5%
Xtra Sweep	$ 110.90	12 lb				1	$110.90	0.3%	1	$110.90	0.4%				2	$221.80	0.2%
		Totals :		**$12,186.81**	**100.0%**		**$35,026.31**	**100.0%**		**$25,975.47**	**100.0%**		**$26,653.25**	**100.0%**		**$99,841.84**	**100.0%**
		Cost per Metre :		**$39.70**			**$36.95**			**$14.87**			**$87.68**			**$26.98**	

3.2 INTERVAL COSTS
Glenaire # 1 ST1

			6" Production Hole Sidetrack			Total Well Consumption		
		Interval :	3041 m - 3701 m (TD)			0 - 3701 m (TD)		
Product	**Cost**	**Unit Size**	**Used**	**Cost**	**%Cost**	**Used**	**Cost**	**%Cost**
AMC Biocide G	$ 185.35	25 lt	19	$3,521.65	2.9%	40	$7,414.00	3.4%
AMC Defoamer	$ 146.40	25 lt	8	$1,171.20	1.0%	15	$2,196.00	1.0%
AMC Pac-LV	$ 159.98	25 kg	41	$6,559.18	5.5%	158	$25,276.84	11.5%
Ausben	$ 11.25	25 kg	3	$33.75	0.0%	675	$7,593.75	3.5%
Baryte	$ 8.20	25 kg	5919	$48,535.80	40.6%	6432	$52,742.40	24.0%
Calcium Carbonate F	$ 14.20	25 kg	192	$2,726.40	2.3%	192	$2,726.40	1.2%
Calcium Carbonate M	$ 12.60	25 kg	384	$4,838.40	4.0%	384	$4,838.40	2.2%
Calcium Carbonate UF	$ 17.40	25 kg	192	$3,340.80	2.8%	192	$3,340.80	1.5%
Caustic Soda	$ 48.90	25 kg	17	$831.30	0.7%	41	$2,004.90	0.9%
Citric Acid	$ 73.25	25 kg				12	$879.00	0.4%
Class A Cement	$ 11.33	18.2 kg	20	$226.60	0.2%	42	$475.86	0.2%
Kwikseal C	$ 56.39	18.2 kg				45	$2,537.55	1.2%
Kwikseal F	$ 56.39	18.2 kg	29	$1,635.31	1.4%	29	$1,635.31	0.7%
Kwikseal M	$ 56.39	25 kg				48	$2,706.72	1.2%
PHPA	$ 118.90	25 kg	12	$1,426.80	1.2%	59	$7,015.10	3.2%
Potassium Chloride	$ 18.95	205 kg	810	$15,349.50	12.8%	2281	$43,224.95	19.7%
Salt	$ 8.65	25 kg	1968	$17,023.20	14.2%	2592	$22,420.80	10.2%
Soda Ash	$ 18.30	25 kg	2	$36.60	0.0%	62	$1,134.60	0.5%
Sodium Sulphite	$ 33.30	200 lt	17	$566.10	0.5%	55	$1,831.50	0.8%
Xanthan Gum	$ 359.25	25 kg	33	$11,855.25	9.9%	76	$27,303.00	12.4%
Xtra Sweep	$ 110.90	12 lb				2	$221.80	0.1%
		Totals :		**$119,677.84**	**100.0%**		**$219,519.68**	**100.0%**
		Cost per Metre :		**$181.33**			**$59.31**	

4. Material Reconciliation

Products	Unit	Pre Spud	11-Sep	14-Sep	20-Sep	30-Sep	7-Oct	14-Oct	15-Oct	16-Oct	19-Oct	21-Oct	24-Oct	28-Oct	31-Oct	2-Nov	Total Received	Total Used	Returned 31st October	Returned End of Well
AMC Biocide G	50 lb	32										8					40	40		
AMC Defoamer	55 lb	12										4					16	15		1
AMC PAC-L	55 lb	80		64		32							64				240	158	82	0
AMC PHPA	55 lb	90															90	59	31	0
AUS-BEN	55 lb	840															840	675	165	0
Baryte	55 lb	720		400				160	960	800	800		880	1920		880	7520	6432		1088
Calcium carbonate F	55 lb											192					192	192		0
Calcium carbonate M	55 lb											384					384	384		0
Calcium carbonate UF	55 lb											192					192	192		0
Caustic Soda	55 lb	32			16								12				60	41	19	0
Citric Acid	55 lb	40															40	12	28	0
Class A Cement	88 lb	252															252	42	210	0
KWIKSEAL - C	55 lb	80		32													112	45	67	0
KWIKSEAL - F	40 lb	80														32	112	29	51	32
KWIKSEAL- M	40 lb	80		9													89	48	41	0
Lime	44 lb	20															20	0	20	0
Potassium Chloride (Tech)	55 lb	504	784	378						168	168	168			126		2296	2281		15
ROD-FREE 25Lt	55 lb	1	7														8	0	8	0
Salt	55 lb					816	960	816									2592	2592		0
Soda Ash	55 lb	48			48												96	62	34	0
Sodium Sulphite	55 lb		84														84	55	29	0
Xanthan Gum	55 lb	30	30	60													120	76	30	14
XTRA - Sweep	12 lb	10			4												14	2	12	

5.1 FLUID PROPERTIES SUMMARY
Glenaire # 1

								Gels		Filtrate		Solids												
Date	Mud Type	Temp	Depth	Weight	Vis	PV	YP	10 sec	10 min	API	Cake	Solids	Water	Sand	MBT	pH	Pm	Pf	Mf	Cl-	Ca++	SO3=	K+	KCl
8-Sep-06	BENTONITE Spud Mud	17	12	8.55	60	7	28	16	18	16	2	1.5	98.5	0	20.0	9.0	0.72	0.52	0.75	650	20	--		0
		24	180	8.90	75	13	30	26	28	12	2	4.0	96.0	1¼	25.0	9.5	0.58	0.26	0.53	700	20	--		0
9-Sep-06	BENTONITE Spud Mud	26	307	9.00	48	9	10	9	17	14	2	4.4	95.6	1¾	20.0	9.0	0.55	0.18	0.39	720	30	--		0
10-Sep-06	5% KCl-PHPA-POLYMER	20	307	8.70	45	5	7	2	3	15	1	0.3	99.7	0	1.0	10.5	0.68	0.38	0.98	38,000	40	--	39,400	7
11-Sep-06	5% KCl-PHPA-POLYMER	24	310	8.75	40	5	6	1	2	12	1	0.6	99.4	0	1.0	12.0	1.45	0.56	1.30	34,000	180	--	37,800	7
12-Sep-06	5% KCl-PHPA-POLYMER	34	587	9.15	38	7	11	2	5	9	1	3.3	96.7	1½	5.0	9.8	0.50	0.21	0.51	30,500	280	150	36,700	7
	5% KCl-PHPA-POLYMER	39	883	9.20	38	7	9	2	4	9	1	4.0	96.0	1¾	9.0	9.5	0.22	0.10	0.45	26,000	380	250	30,800	6
13-Sep-06	5% KCl-PHPA-POLYMER	41.3	1097	9.25	39	8	12	3	6	9	1	4.3	95.7	1.0	11.3	9.0	0.16	0.08	0.42	27,000	500	250	31,900	6
	5% KCl-PHPA-POLYMER	47.9	1224	9.30	40	9	12	3	7	9	1	4.7	95.3	¾	13.3	9.5	0.02	0.05	0.55	26,000	540	250	31,300	6
14-Sep-06	5% KCl-PHPA-POLYMER	46.4	1255	9.30	40	8	12	3	6	9	1	4.4	95.6	½	13.3	9.5	0.32	0.08	0.43	26,600	400	150	33,000	6
15-Sep-06	5% KCl-PHPA-POLYMER	30.9	1255	9.20	40	7	10	2	4	9	1	4.0	96.0	¼	15.0	8.8	0.10	0.06	0.41	25,000	440	80	30,800	6
16-Sep-06	5% KCl-PHPA-POLYMER	28.1	1255	9.10	41	7	9	2	3	9	1	3.3	96.7	0.1	11.7	9.0	0.13	0.05	0.72	24,500	180	250	30,800	6
	5% KCl-PHPA-POLYMER	35.8	1255	9.10	50	9	13	3	9	10	1	3.3	96.7	0.2	13.3	12.0	2.90	0.92	1.45	23,500	200	100	29,700	6
17-Sep-06	5% KCl-PHPA-POLYMER	39.4	1473	9.15	45	9	14	3	11	10	1	3.5	96.5	0.2	13.3	10.5	0.88	0.28	1.35	24,000	240	250	31,300	6
	5% KCl-PHPA-POLYMER	45.9	1730	9.25	45	10	14	3	12	9	1	4.2	95.8	¼	15.0	10.5	0.65	0.21	1.00	22,000	220	200	30,300	6
18-Sep-06	5% KCl-PHPA-POLYMER	49.3	1904	9.30	45	10	17	3	12	8	1	4.6	95.4	¼	16.7	9.5	0.33	0.11	0.65	24,600	320	250	31,300	6
	5% KCl-PHPA-POLYMER	51.1	2084	9.30	42	10	14	3	10	8	1	4.6	95.4	¼	17.5	9.8	0.28	0.10	0.62	25,000	280	250	31,900	6
19-Sep-06	5% KCl-PHPA-POLYMER	52.1	2240	9.30	46	12	17	4	12	8	1	4.9	95.1	¼	17.5	10.0	0.31	0.17	0.78	27,400	160	250	31,300	6
	5% KCl-PHPA-POLYMER	53.5	2349	9.30	46	12	17	5	14	8	1	4.8	95.2	¼	16.3	9.5	0.16	0.05	0.55	27,700	240	250	31,900	6
20-Sep-06	5% KCl-PHPA-POLYMER	50.6	2463	9.40	49	12	18	5	15	8	1	5.6	94.4	0.2	17.5	9.0	0.11	0.08	0.68	28,300	200	200	31,300	6
21-Sep-06	5% KCl-PHPA-POLYMER	56.1	2620	9.40	49	12	19	5	16	8	1	5.5	94.5	0.1	16.3	9.5	0.14	0.10	0.70	28,700	180	100	31,900	6
	5% KCl-PHPA-POLYMER	55.9	2734	9.40	48	13	16	4	16	8	1	5.5	94.5	¼	20.0	9.5	0.13	0.13	0.64	28,600	200	100	31,900	6
22-Sep-06	5% KCl-PHPA-POLYMER	57.3	2826	9.40	50	13	18	5	18	9	1	5.5	94.5	¼	17.5	9.8	0.08	0.08	0.70	28,600	280	80	31,300	6
	5% KCl-PHPA-POLYMER	59.6	2917	9.35	49	13	19	5	16	9	1	5.2	94.8	0.2	15.0	10.0	0.10	0.12	0.74	29,500	220	120	31,300	6
23-Sep-06	5% KCl-PHPA-POLYMER	62.2	3002	9.40	51	13	19	5	19	8	1	5.6	94.4	0.1	15.0	10.2	0.10	0.14	0.78	29,800	120	150	31,900	6
	5% KCl-PHPA-POLYMER	58.5	3002	9.40	49	12	19	4	16	9	1	5.4	94.6	0.1	15.0	10.0	0.08	0.12	0.72	29,400	100	180	31,300	6
24-Sep-06	5% KCl-PHPA-POLYMER	46.1	3002	9.40	61	15	28	7	13	9	1	5.4	94.6	0.1	15.0	9.8	0.06	0.10	0.71	29,500	100	150	31,300	6
25-Sep-06	5% KCl-PHPA-POLYMER	50.9	3002	9.50	51	13	19	4	16	9	1	6.1	93.9	Tr	15.0	9.8	0.08	0.11	0.75	29,600	100	200	31,300	6
26-Sep-06	5% KCl-PHPA-POLYMER	38	3002	9.45	47	11	14	3	18	8	1	5.7	94.3	Tr	15.0	10.6	0.68	0.35	1.88	29,500	40	150	31,900	6
27-Sep-06	5% KCl-PHPA-POLYMER		3002	9.45	46	11	13	3	16	7	1	6.0	94.0	Tr	15.0	10.5	0.66	0.33	0.17	29,500	60	120	31,900	6
28-Sep-06	5% KCl-PHPA-POLYMER	49.7	3005	9.55	60	15	18	7	24	9	1	6.8	93.2	Tr	12.5	12.5	1.95	1.15	2.45	28,700	60	200	31,300	6
	5% KCl-PHPA-POLYMER	54.1	3082	9.45	52	12	19	4	16	9	1	6.0	94.0	Tr	15.0	11.0	0.78	0.48	1.72	28,000	40	250	31,300	6
29-Sep-06	5% KCl-PHPA-POLYMER	53.3	3230	9.75	43	11	11	3	18	9	1	6.2	93.8	Tr	15.0	10.0	0.28	0.20	1.50	65,000	60	150	67,600	13
	5% KCl-PHPA-POLYMER	--	3230	9.80	62	21	15	3	7	7	1	6.7	93.3	Tr	15.0	10.0	0.30	0.28	1.95	62,000	40	300	64,800	12
30-Sep-06	5% KCl-PHPA-POLYMER	39.2	3230	10.00	44	12	12	3	14	7	1	8.1	91.9	0.1	16.3	10.0	0.12	0.20	1.65	85,000	160	180	71,900	13
1-Oct-06	5% KCl-PHPA-POLYMER	52.4	3259	10.00	40	10	9	2	8	7	1	8.5	91.5	0.1	16.3	10.2	0.53	0.28	1.92	91,000	120	250	64,800	12
	5% KCl-PHPA-POLYMER	57.2	3287	10.00	44	13	11	2	8	7	1	8.3	91.7	0.1	16.3	10.2	0.28	0.30	2.00	90,500	40	250	69,700	13
2-Oct-06	5% KCl-PHPA-POLYMER	56.5	3306	10.20	45	13	10	2	7	7	1	8.7	91.3	0.1	15.0	10.0	0.20	0.18	1.90	125,000	60	150	81,100	15
3-Oct-06	5% KCl-PHPA-POLYMER	52.4	2992	10.20	45	15	12	3	9	6	1	8.8	91.2	0.1	14.0	11.0	0.50	0.45	1.80	119,000	40	250	78,400	15
4-Oct-06	5% KCl-PHPA-POLYMER	49	3037	10.20	50	16	11	3	10	6	1	8.7	91.3	0.1	14.0	11.0	0.56	0.42	1.86	118,000	60	200	78,400	15
5-Oct-06	5% KCl-PHPA-POLYMER	46	3041	10.15	45	12	9	2	11	7	1	8.4	91.6	0.1	14.0	11.0	0.55	0.40	1.80	118,000	60	180	78,400	15
	5% KCl-PHPA-POLYMER	45	3041	10.20	45	13	9	2	11	7	1	8.7	91.3	0.1	14.0	11.0	0.60	0.52	1.85	114,000	20	180	78,400	15
6-Oct-06	5% KCl-PHPA-POLYMER		3041	10.20	45	13	10	2	10	7	1	8.5	91.5	0.1	14.0	11.0	0.56	0.50	1.80	113,000	20	150	78,400	15
7-Oct-06	5% KCl-PHPA-POLYMER		3041	10.20	47	13	9	2	8	7	1	8.5	91.5	0.1	14.0	11.0	0.50	0.48	1.80	113,000	20	120	78,400	15

5.2 FLUID PROPERTIES SUMMARY
Glenaire # 1 ST1

								Gels		Filtrate		Solids												
Date	Mud Type	Temp	Depth	Weight	Vis	PV	YP	10 sec	10 min	API	Cake	Solids	Water	Sand	MBT	pH	Pm	Pf	Mf	Cl-	Ca++	SO3=	K+	KCl
8-Oct-06	5% KCl-PHPA-POLYMER	49	3051	10.15	39	12	7	1	2	7	1	8.2	91.8	0.1	14.0	11.0	0.55	0.50	1.75	113,500	Tr	100	78,400	15
	5% KCl-PHPA-POLYMER	52	3072	10.05	38	11	6	1	1	7	1	7.6	92.4	Tr	13.0	11.0	0.45	0.35	1.40	110,500	Tr	100	75,700	14
9-Oct-06	5% KCl-PHPA-POLYMER	52	3092	10.05	37	11	6	1	1	7	1	7.7	92.3	Tr	13.0	10.8	0.40	0.28	1.30	107,500	Tr	100	75,700	14
	5% KCl-PHPA-POLYMER	52.5	3119	10.05	38	11	7	1	2	7	1	7.5	92.5	Tr	13.0	10.5	0.40	0.26	1.24	107,000	Tr	120	75,700	14
10-Oct-06	5% KCl-PHPA-POLYMER		3119	10.05	39	11	6	1	1	7	1	7.5	92.5	Tr	13.0	10.5	0.42	0.25	1.15	107,000	Tr	120	75,700	14
11-Oct-06	5% KCl-PHPA-POLYMER		3119	10.05	39	10	8	1	1	7	1	7.5	92.5	Tr	13.0	10.5	0.42	0.25	1.12	107,000	Tr	100	75,700	14
12-Oct-06	5% KCl-PHPA-POLYMER		3119	10.05	39	11	6	1	1	8	1	7.4	92.6	Tr	13.0	10.5	0.40	0.24	1.10	107,000	Tr	80	75,700	14
13-Oct-06	5% KCl-PHPA-POLYMER	51	3150	10.30	36	10	5	1	3	7	1	8.0	92.0	Tr	12.5	10.0	0.30	0.22	0.98	129,500	40	120	67,600	13
	5% KCl-PHPA-POLYMER	52	3165	10.30	36	9	6	1	3	7	1	7.9	92.1	Tr	12.0	10.0	0.28	0.24	0.94	131,000	40	100	62,100	12
14-Oct-06	5% KCl-PHPA-POLYMER	51	3182	10.55	36	10	5	1	3	6	1	7.8	92.2	Tr	12.0	9.5	0.18	0.15	0.70	159,000	80	120	54,000	10
15-Oct-06	5% KCl-PHPA-POLYMER	50	3207	10.85	37	8	4	1	2	5	1	8.3	91.7	Tr	13.0	9.0		0.12	0.66	183,000	120	150	51,300	10
16-Oct-06	5% KCl-PHPA-POLYMER	49	3231	11.00	36	7	4	1	2	5	2	9.7	90.3	0.1	12.0	9.0	0.15	0.12	0.65	156,000	100	120	45,934	9
	5% KCl-PHPA-POLYMER	51	3267	11.10	34	8	6	1	1	5	2	8.6	91.4	0.1	12.0	9.0	0.16	0.14	0.70	177,000	80	120	40,530	8
17-Oct-06	5% KCl-PHPA-POLYMER	53	3315	11.25	35	9	7	1	1	4	1	9.5	90.5	Tr	11.0	9.0		0.15	0.78	175,500	120	150	37,828	7
	5% KCl-PHPA-POLYMER	54	3357	11.20	36	10	8	1	2	4	1	9.2	90.8	Tr	11.0	9.0		0.20	0.90	175,000	100	120	36,477	7
18-Oct-06	5% KCl-PHPA-POLYMER	53	3393	11.30	35	10	8	1	2	6	1	9.8	90.2	Tr	10.0	9.0		0.17	0.84	174,000	120	120	39,179	7
	5% KCl-PHPA-POLYMER	53	3418	11.30	35	10	9	1	2	6	1	9.8	90.2	Tr	9.0	9.0		0.15	0.80	171,000	140	100	37,828	7
19-Oct-06	5% KCl-PHPA-POLYMER	54	3507	11.30	35	10	9	1	2	5	1	9.3	90.7	Tr	9.0	9.0		0.14	0.82	182,000	160	100	41,881	8
20-Oct-06	5% KCl-PHPA-POLYMER	48	3528	11.30	37	12	10	1	2	5	1	9.1	90.9	Tr	8.0	9.0		0.15	0.85	184,000	140	80	43,232	8
	5% KCl-PHPA-POLYMER	50	3558	11.20	36	11	9	1	2	6	1	8.7	91.3	Tr	8.0	9.5		0.17	0.92	181,000	120	120	43,232	8
21-Oct-06	5% KCl-PHPA-POLYMER	51	3570	11.20	37	11	10	2	3	6	1	8.9	91.1	Tr	8.0	9.5		0.15	0.90	168,000	80	100	41,881	8
22-Oct-06	5% KCl-PHPA-POLYMER	53	3588	11.20	36	11	11	1	3	6	1	8.9	91.1	Tr	7.5	9.5		0.14	0.92	168,000	80	120	41,881	8
	5% KCl-PHPA-POLYMER	55	3610	11.20	37	12	12	2	5	7	1	8.4	91.6	Tr	7.0	9.0		0.12	0.88	170,000	100	120	41,881	8
23-Oct-06	5% KCl-PHPA-POLYMER	56	3627	11.20	36	11	12	2	5	7	1	8.0	92.0	Tr	7.0	9.0		0.13	0.90	172,000	100	150	41,881	8
	5% KCl-PHPA-POLYMER	57	3648	11.10	36	12	12	2	4	7	1	7.5	92.5	Tr	6.5	9.0		0.12	0.92	171,000	80	120	41,881	8
24-Oct-06	5% KCl-PHPA-POLYMER	56	3664	11.10	37	11	13	2	5	7	1	7.7	92.3	Tr	6.5	9.0		0.13	0.95	167,000	80	150	41,881	8
	5% KCl-PHPA-POLYMER	57	3687	11.10	38	12	13	2	5	6	1	7.7	92.3	Tr	6.5	9.0		0.10	0.98	166,000	100	120	40,530	8
25-Oct-06	5% KCl-PHPA-POLYMER	55	3697	11.15	39	13	13	2	7	8	1	8.7	91.3	Tr	6.5	9.0		0.15	1.10	160,000	80	150	43,232	8
	5% KCl-PHPA-POLYMER	54	3700	11.10	39	13	13	2	6	6	1	8.4	91.6	Tr	6.5	9.5		0.20	1.40	158,000	20	150	43,232	8
26-Oct-06	5% KCl-PHPA-POLYMER		3700	11.15	41	13	14	2	6	6	1	8.8	91.2	Tr	6.5	9.5		0.22	1.35	158,000	40	120	43,232	8
27-Oct-06	5% KCl-PHPA-POLYMER	49	3701	11.10	40	13	14	2	6	6	1	9.9	90.1	Tr	6.5	9.5		0.20	1.40	144,000	60	120	43,232	8
	5% KCl-PHPA-POLYMER	45	3701	12.10	41	14	18	3	6	7	1	16.0	84.0	Tr	7.0	8.5		0.12	0.85	140,000	100	100	54,040	10
28-Oct-06	5% KCl-PHPA-POLYMER	45	3701	12.10	42	13	18	3	5	7	2	16.0	84.0	Tr	7.0	9.0		0.14	1.10	140,000	100	100	54,040	10
	5% KCl-PHPA-POLYMER	46	3701	12.40	42	15	19	4	6	7	2	17.5	82.5	Tr	7.0	8.5		0.10	0.90	140,000	120	80	54,040	10
29-Oct-06	5% KCl-PHPA-POLYMER	39	3701	12.60	41	14	19	4	6	8	2	18.8	81.2	Tr	9.0	8.0		0	0.83	136,000	160	80	54,040	10
30-Oct-06	5% KCl-PHPA-POLYMER		3701	12.60	42	14	20	4	6	8	2	18.8	81.2	Tr	9.0	8.0		0	0.80	136,000	160	80	54,040	10
31-Oct-06	5% KCl-PHPA-POLYMER	35	3701	12.60	46	16	22	5	7	9	2	18.8	81.2	Tr	9.0	8.0		0	0.80	136,000	180	60	54,040	10
1-Nov-06	5% KCl-PHPA-POLYMER	41	2793	12.40	41	13	22	4	6	12	2	17.9	82.1	Tr	9.0	8.0		0	0.76	108,000	200	40	40,530	8
2-Nov-06	5% KCl-PHPA-POLYMER	39	2793	12.40	40	11	21	4	5	13	2	18.0	82.0	Tr	9.0	8.0		0	0.80	107,000	220	40	40,530	8
3-Nov-06	5% KCl-PHPA-POLYMER		2793	12.50	41	11	22	4	6	13	2	18.8	81.2	Tr	9.0	8.0		0	0.80	107,000	240	Tr	40,530	8

6.1 Mud Volume Analysis

		Interval			Fluid Built & Received					Fluid Disposed						Summary			
Date	Hole Size	From	To	Mud Type	Fresh Premix	Sump Premix	Direct Recirc	Water	Other	De-sander	De-silter	Centrif uge	Down-hole	Dumped	Other	Initial	Received	Disposed	Final
8-Sep-06	17-1/2"	0 m	209 m	Spud Mud	1250			100				41	580			0	1350	621	729
9-Sep-06	17-1/2"	209 m	307 m	Spud Mud	100			150				29	331	30		729	250	390	589
Sub Total					**1350**	**0**	**0**	**250**	**0**	**0**	**0**	**70**	**911**	**30**	**0**		**1600**	**1011**	
10-Sep-06	12-1/4"	307 m	307 m	KCl Polymer	550			40						434		589	590	434	745
11-Sep-06	12-1/4"	307 m	310 m	KCl Polymer										213		745	0	213	532
12-Sep-06	12-1/4"	310 m	884 m	KCl Polymer	200	450						70	286			532	650	356	826
13-Sep-06	12-1/4"	884 m	1250 m	KCl Polymer		300						68	30			826	300	98	1028
14-Sep-06	12-1/4"	1250 m	1255 m	KCl Polymer								44	41	50		1028	0	135	894
15-Sep-06	12-1/4"	1255 m	1255 m	KCl Polymer					46							894	46	0	940
Sub Total					**750**	**750**	**0**	**40**	**46**	**0**	**0**	**182**	**357**	**697**	**0**		**1586**	**1236**	
16-Sep-06	8-1/2"	1255 m	1255 m	KCl Polymer								33		8		940	0	41	899
17-Sep-06	8-1/2"	1255 m	1778 m	KCl Polymer		180						60	23	50		899	180	133	945
18-Sep-06	8-1/2"	1778 m	2125 m	KCl Polymer		200						82	20	15		945	200	117	1029
19-Sep-06	8-1/2"	2125 m	2365 m	KCl Polymer		100						66	65	20		1029	100	151	977
20-Sep-06	8-1/2"	2365 m	2485 m	KCl Polymer		90						34	36			977	90	70	997
21-Sep-06	8-1/2"	2485 m	2753 m	KCl Polymer		200						72	14			997	200	86	1111
22-Sep-06	8-1/2"	2753 m	2935 m	KCl Polymer		100						68	30	20		1111	100	118	1093
23-Sep-06	8-1/2"	2935 m	3002 m	KCl Polymer								28	28			1093	0	56	1037
24-Sep-06	8-1/2"	3002 m	3002 m	KCl Polymer									16	20		1037	0	36	1001
25-Sep-06	8-1/2"	3002 m	3002 m	KCl Polymer				30					16			1001	30	16	1015
26-Sep-06	8-1/2"	3002 m	3002 m	KCl Polymer										159		1015	0	159	856
Sub Total					**0**	**870**	**0**	**30**	**0**	**0**	**0**	**443**	**249**	**292**	**0**		**900**	**984**	
Well Total					**2100**	**1620**	**0**	**320**	**46**	**0**	**0**	**695**	**1516**	**1019**	**0**		**4086**	**3230**	

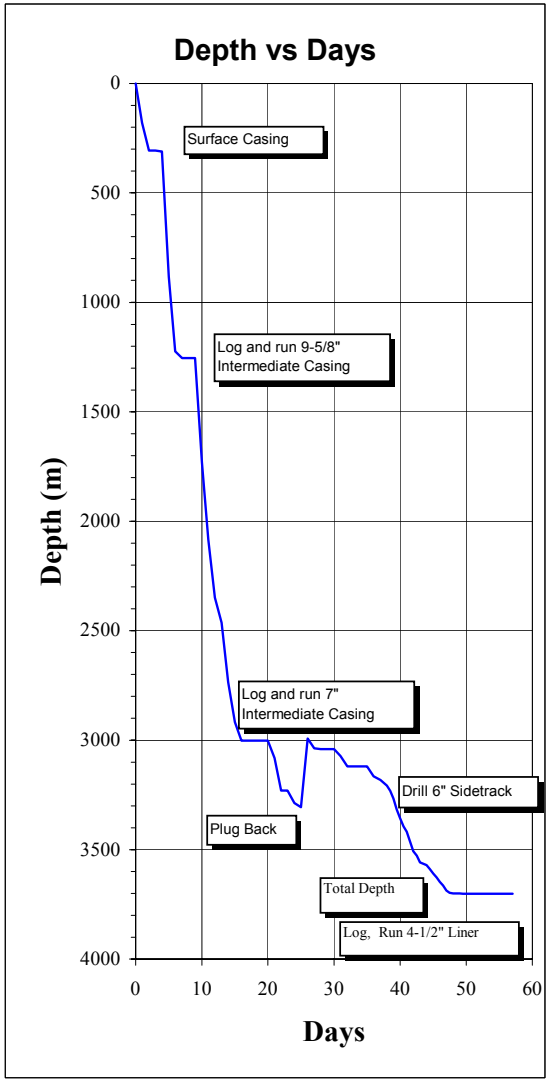
Dilution Factors			
	Interval Length	**Dilution Vol**	**Dilution Factor**
17½" Hole	307 m	1064	3.5 bbls/m
12¼" Surface Hole	948 m	1036 bbls	1.1 bbls/m
8½" Hole	1747 m	900 bbls	0.5 bbls/m

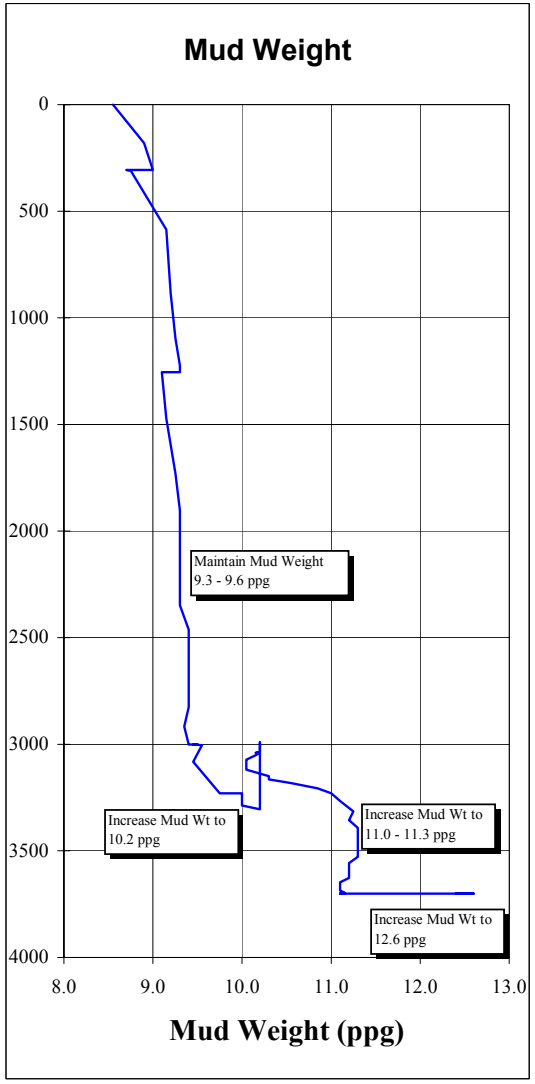
6.2 Mud Volume Analysis

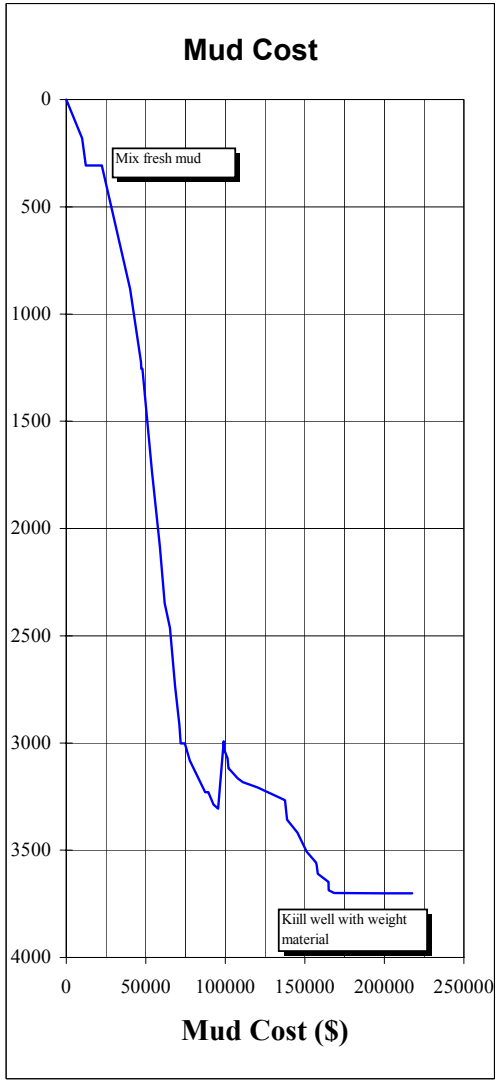
		Interval			Fluid Built & Received					Fluid Disposed						Summary			
Date	Hole Size	From	To	Mud Type	Fresh Premix	Sump Premix	Direct Recirc	Water	Other	De-sander	De-silter	Centrif uge	Down-hole	Dumped	Other	Initial	Received	Disposed	Final
27-Sep-06	6"	3002 m	3002 m	KCl Polymer												856	0	0	856
28-Sep-06	6"	3002 m	3103 m	KCl Polymer				30				21				856	30	21	865
29-Sep-06	6"	3103 m	3230 m	KCl Polymer				50				28	1			865	50	29	886
30-Sep-06	6"	3230 m	3230 m	KCl Polymer										25		886	0	25	861
1-Oct-06	6"	3230 m	3290 m	KCl Polymer				20				63				861	20	63	818
2-Oct-06	6"	3290 m	2985 m	KCl Polymer								26	7	31		818	0	64	754
3-Oct-06	6"	2985 m	3037 m	KCl Polymer		100								38		754	100	38	816
4-Oct-06	6"	3037 m	3041 m	KCl Polymer								1	1			816	0	2	814
5-Oct-06	6"	3041 m	3041 m	KCl Polymer												814	0	0	814
6-Oct-06	6"	3041 m	3041 m	KCl Polymer												814	0	0	814
7-Oct-06	6"	3041 m	3041 m	KCl Polymer												814	0	0	814
Sub Total					**0**	**100**	**0**	**100**	**0**	**0**	**0**	**139**	**9**	**94**	**0**		**200**	**242**	
Glenaire # 1 ST1																			
8-Oct-06	6"	3041 m	3072 m	KCl Polymer		90						18	8	10		814	90	36	868
9-Oct-06	6"	3072 m	3119 m	KCl Polymer								14	6			868	0	20	848
10-Oct-06	6"	3119 m	3119 m	KCl Polymer												848	0	0	848
11-Oct-06	6"	3119 m	3119 m	KCl Polymer									3			848	0	3	845
12-Oct-06	6"	3119 m	3119 m	KCl Polymer									2			845	0	2	843
13-Oct-06	6"	3119 m	3169 m	KCl Polymer		110						6	13	23		843	110	42	911
14-Oct-06	6"	3169 m	3182 m	KCl Polymer								5	9	10		911	0	24	887
15-Oct-06	6"	3182 m	3207 m	KCl Polymer								1		196		887	0	197	689
16-Oct-06	6"	3207 m	3267 m	KCl Polymer		360							24			689	360	24	1025
17-Oct-06	6"	3267 m	3361 m	KCl Polymer								3	50	25		1025	0	78	947
18-Oct-06	6"	3361 m	3418 m	KCl Polymer		100							54	15		947	100	69	978
19-Oct-06	6"	3418 m	3507 m	KCl Polymer		100						2	126	10		978	100	137	941
20-Oct-06	6"	3507 m	3563 m	KCl Polymer		100		35				2	13			941	135	15	1061
21-Oct-06	6"	3563 m	3572 m	KCl Polymer								2	45	25		1061	0	72	989
22-Oct-06	6"	3572 m	3572 m	KCl Polymer								2	24			989	0	26	963
23-Oct-06	6"	3572 m	3612 m	KCl Polymer		100						2	27	8		963	100	37	1025
24-Oct-06	6"	3612 m	3648 m	KCl Polymer								3	74	10		1025	0	87	938
25-Oct-06	6"	3648 m	3688 m	KCl Polymer								2	14	10		938	0	26	912
26-Oct-06	6"	3688 m	3700 m	KCl Polymer									20	10		912	0	30	882
27-Oct-06	6"	3700 m	3700 m	KCl Polymer	220								197			882	220	197	906
28-Oct-06	6"	3700 m	3701 m	KCl Polymer									15			906	0	15	891
29-Oct-06	6"	3701 m	3701 m	KCl Polymer									39			891	0	39	852
30-Oct-06	6"	3701 m	3701 m	KCl Polymer	118								29			852	118	29	941
31-Oct-06	6"	3701 m	3701 m	KCl Polymer	95								182			941	95	182	854
1-Nov-06	6"	3701 m	3701 m	KCl Polymer									23	80		854	0	103	751
2-Nov-06	6"	3701 m	3701 m	KCl Polymer									33			751	0	33	718
3-Nov-06	6"	3701 m	3701 m	KCl Polymer				200					35			718	200	35	883
4-Nov-06	6"	3701 m	3701 m	KCl Polymer									-65	494		883	0	429	454
Sub Total					**433**	**960**	**0**	**235**	**0**	**0**	**0**	**63**	**999**	**926**	**0**		**1628**	**1988**	
Well Total					**2533**	**2680**	**0**	**655**	**46**	**0**	**0**	**897**	**2524**	**2039**	**0**		**5914**	**5460**	

Dilution Factors			
	Interval Length	**Dilution Vol**	**Dilution Factor**
6" Production Hole	288 m	200 bbls	0.7 bbls/m
6" Side Track	660 m	1628 bbls	2.5 bbls/m

7. Graphs


Depth vs Days
Depth (m)
Days
0
500
1000
1500
2000
2500
3000
3500
4000
0
10
20
30
40
50
60
Surface Casing
Log and run 9-5/8" Intermediate Casing
Log and run 7" Intermediate Casing
Drill 6" Sidetrack
Plug Back
Total Depth
Log, Run 4-1/2" Liner


Mud Weight
Mud Weight (ppg)
0
500
1000
1500
2000
2500
3000
3500
4000
8.0
9.0
10.0
11.0
12.0
13.0
Maintain Mud Weight 9.3 - 9.6 ppg
Increase Mud Wt to 10.2 ppg
Increase Mud Wt to 11.0 - 11.3 ppg
Increase Mud Wt to 12.6 ppg


Mud Cost
Mud Cost ($)
0
500
1000
1500
2000
2500
3000
3500
4000
0
50000
100000
150000
200000
250000
Mix fresh mud
Kiill well with weight material

8. Bit & Hydraulics Record

Bit #	Size	Make	Type	Jets						Depth Out	Depth Drilled	Hours	Cumm Hours	WOB	RPM	GPM	Mud Wt	Jet Vel	HHPb/sq"	Impact Force
1	17 1/2"	SMITH	XRCPS	20	20	20	16			307	307	25	25	2 - 10	70-120	768	9	220	176	788
2	12 1/4"	SMITH	XRCPS	14	14	14	14			1255	948	40	65	4 - 20	70-130	660	9.3	351	397	1117
3	8 1/2"	HYCALOG	DSX519M-A5	12	12	12	12	12		2386	1131	64.5	129.5	3 - 6	175-200	450	9.3	261	149	565
4RR3	8 1/2"	HYCALOG	DSX519M-A5	12	12	12	12	12		3002	616	58.5	188	5 - 6	200-230	450	9.4	261	151	571
5RR3	8 1/2"	HYCALOG	DSX519M-A5	12	12	12	12	12		3002	Clean out trip									
6	6 "	HYCALOG	DSX516M	14	14	14	14	14		3230	228	16	16	2 - 4	147-187	450	9.4	192	81	420
7	6 "	REED	SL12TKPR	30	30	30				3306	76	23.5	39.5	10 - 18	135-195	260	10.2	40	2	55
Glenaire # 1 ST																				
8	6 "	HYCALOG	SL12TKPR	20	20	20				3041	4	0.5	228	Drill Cement						
9	6 "	SEC	XN4	20	20	20				3119	78	43.5	271.5	1 - 15	135-195	250	10.05	87	10	113
10	6 "	SMITH	XR+	24	24	24				3182	63	26.5	298	10 - 14	130-195	250	10.55	60	5	82
11	6 "	HYCALOG	DSX516M	15	15	15	15	15		3207	25	1	299	3 - 8	130-195	250	10.85	93	12	130
12	6 "	HYCALOG	DSX516M	15	15	15	15	15		3507	300	66	365	0 - 6	130-200	250	11.3	93	13	136
13	6 "	HYCALOG	DSX516M	16	16	16	16	16		3564	57	76.5	441.5	4 - 10	130-190	250	11.2	81	10	118
14	6 "	HYCALOG	DSX111	20	20	20	20	12.25	12.25	3700	136	83	524.5	5 - 17	150-200	200	11.1	44	2	51
15	6 "	HYCALOG	DSX111	20	20	20	20	12.25	12.25	3701	1	1	525.5	8 - 10	75-80	248	11.1	54	4	78

9. DAILY DRILLING FLUIDS REPORTS

DRILLING FLUID REPORT

RMN drilling fluids

Report #	1	Date :	8-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	to 209		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	20	20	20	20 SURFACE	40	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
17.50	XRCPS	16			SET @	12	M	187	383	6 x 8.5	Inches	PRESS (PSI)	1200 psi
DRILL PIPE	TYPE	Length			INTERMEDIATE		ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 4.5	16.6 #			Mtrs	SET @		M	729		3 x NAT 8-P80	97 %	UP (min)	9 min
DRILL PIPE	TYPE	Length			PRODUCTION/		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 4.50	HW		86	Mtrs	LINER Set @		M	159		0.0743	256	TIME (min)	40 min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	66
8.00	6.25	45	78	Mtrs	BENTONITE Spud Mud					18.45	775	(ft/min) DCs	78 71

MUD PROPERTIES				
SAMPLE FROM		Suction		Below shkrs
TIME SAMPLE TAKEN		07:30		21:30
DEPTH (ft) - (m)	Metres	12		180
FLOWLINE TEMPERATURE	^{0}C ^{0}F	17		24
WEIGHT	ppg / SG	8.55	1.026	8.90 1.068
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	60		75
PLASTIC VISCOSITY cP @	50 ^{0}C	7		13
YIELD POINT (lb/100ft^2)		28		30
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		16	18	26 28
RHEOLOGY q 600 / q 300		42	35	56 43
RHEOLOGY q 200 / q 100		31	27	38 32
RHEOLOGY q 6 / q 3		20	19	23 20
FILTRATE API (cc's/30 min)		16.0		12.0
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F	--		--
CAKE THICKNESS API : HPHT (32nd in)		2		2
SOLIDS CONTENT (% by Volume)		1.5		4.0
LIQUID CONTENT (% by Volume) OIL/WATER		0	98.5	0 96.0
SAND CONTENT (% by Vol.)		0		1.25
METHYLENE BLUE CAPACITY (ppb equiv.)		20.0		25.0
pH		9.0		9.5
ALKALINITY MUD (Pm)		0.72		0.58
ALKALINITY FILTRATE (Pf / Mf)		0.52	0.75	0.26 0.53
CHLORIDE (mg/L)		650		700
TOTAL HARDNESS AS CALCIUM (mg/L)		20		20
SULPHITE (mg/L)		--		--
K+ (mg/L)				
KCl (% by Wt.)		0		0
PHPA (ppb)				

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	NC	HPHT Filtrate	--
Plastic Vis	ALAP	Yield Point	15 - 40	pH	9.0 - 10.0
KCl	NIL	PHPA	NIL	Sulphites	NIL

OBSERVATIONS

Prepare 536bbls of Gel Spud mud. Spud well and drill w/- reduced pump rate and High Viscosity mud to prevent conductor washout. When losses start, pre-hydrate extra Bentonite in P/mix tank and add to system. Add LCM to active, later prepare 12ppb LCM pills using KWIKSEAL M+C to spot on bottom prior to connections. Losses averaging 50bbls/hr. Most of losses occur downhole, however observe some run-off over shakers due to screen blinding by sand. Centrifuge on-line @ 15:00 hrs. U/flow weighing 15ppg plus.

OPERATIONS SUMMARY

Complete Rig-up operations. Make up NB 1, SMITH XRCPS, SN MR9725, 3x20+1x16 jets to B/sub+1st 8" DC. Spud Well at 08:00hrs. Drill to 48m for DS. ½° @ 45m. Started recording d/hole mud losses at 38m, which continue for remainder of the day. Drill to 180.5m, DS @ 131.7m - 1°; Drill to 209m @ 2400 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	1250	Desander		INITIAL VOLUME	0
Premix (recirc from sump)		Desilter			
Drill Water	100	Downhole	580	+ FLUID RECEIVED	1350
Direct Recirc Sump		Dumped		- FLUID LOST	621
Other (eg Diesel)		Centrifuge	41	+ FLUID IN STORAGE	159
TOTAL RECEIVED	1350	TOTAL LOST	621	FINAL VOLUME	888

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	9	Desander	NA	0	Shaker #1	4 x 84	16
Degasser		0	Desilter	0	0	Shaker #2	4 x 84	16

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	15.2	8.7	1.90
	0		0

Product	Price	Start	Received	Used	Close	Cost
AUS-BEN	$ 11.25	840		650	190	$ 7,312.50
Caustic Soda	$ 48.90	32		6	26	$ 293.40
KWIKSEAL - C	$ 56.39	80		36	44	$ 2,030.04
KWIKSEAL- M	$ 56.39	80		8	72	$ 451.12

Solids Analysis

	%	PPB
High Grav solids		
Total LGS	4.0	37.5
Bentonite	2.6	23.9
Drilled Solids	1.3	12.1
Salt	0.0	0.4
n @ 21:30 Hrs	0.38	
K @ 21:30 Hrs	20.44	

Bit Hydraulics & Pressure Data

Jet Velocity	222
Impact force	794
HHP	178
HSI	0.7
Bit Press Loss	395
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	8.97 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$10,087.06	$10,087.06

RMN ENGINEER Peter ARONETZ CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	2	Date :	9-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	209 to 307		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	20	20	20	20 SURFACE	40	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
17.50	XRCPS	16			SET @	12	M	279	310	6 x 8.5	Inches	PRESS (PSI)	1400 psi
DRILL PIPE TYPE		Length			INTERMEDIATE		ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 4.5	16.6 #		98	Mtrs	SET @		M	589		3 x NAT 8-P80	97 %	UP (min)	14 min
DRILL PIPE TYPE		Length			PRODUCTION/		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 4.50	HW		86	Mtrs	LINER Set @		M	0		0.0743	250	TIME (min)	33 min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	65
8.00	6.25	45	78	Mtrs	BENTONITE Spud Mud					18.02	757	(ft/min) DCs	77 69

MUD PROPERTIES			
SAMPLE FROM		Below shkrs	Below shkrs
TIME SAMPLE TAKEN			08:15
DEPTH (ft) - (m)	Metres		307
FLOWLINE TEMPERATURE	^{0}C / ^{0}F		26 / 79
WEIGHT	ppg / SG		9.00 / 1.080
FUNNEL VISCOSITY (sec/qt) API @	26 ^{0}C		48
PLASTIC VISCOSITY cP @	50 ^{0}C		9
YIELD POINT (lb/100ft^2)			10
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			9 / 17
RHEOLOGY q 600 / q 300			28 / 19
RHEOLOGY q 200 / q 100			16 / 12
RHEOLOGY q 6 / q 3			6 / 5
FILTRATE API (cc's/30 min)			13.5
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)			2
SOLIDS CONTENT (% by Volume)			4.4
LIQUID CONTENT (% by Volume) OIL/WATER			0 / 95.6
SAND CONTENT (% by Vol.)			1.75
METHYLENE BLUE CAPACITY (ppb equiv.)			20.0
pH			9.0
ALKALINITY MUD (Pm)			0.55
ALKALINITY FILTRATE (Pf / Mf)			0.18 / 0.39
CHLORIDE (mg/L)			720
TOTAL HARDNESS AS CALCIUM (mg/L)			30
SULPHITE (mg/L)			--
K+ (mg/L)			
KCl (% by Wt.)			0
PHPA (ppb)			

MUD PROPERTY SPECIFICATIONS					
Mud Weight	8.6 - 9.4	API Filtrate	NC	HPHT Filtrate	--
Plastic Vis	ALAP	Yield Point	15 - 40	pH	9.0 - 10.0
KCl	NIL	PHPA	NIL	Sulphites	NIL

OBSERVATIONS

Formation change around 200m to reactive clays. Phase out Gel-based pre-mix, increase water addition. Maintain placement of LCM pills on bottom, prior to connections. DH losses gradually reducing but not healing. Spot 20bbls LCM pill on BTM prior to wiper-trip; spot a further 10bbls after wiper-trip, before POOH for CSG. Hole cond. for running CSG good, no drag or fill; RIH to setting depth w/-out having to resort to washing. Observe neither water-spacer or cement at the flow-line, 100% fluid returns during cementation. Circulating data and Fluid levels on this report as recorded prior to running casing. Dump all fluid volume and start preparation of new fluid system for 12¼" hole interval.

OPERATIONS SUMMARY

Drill to 307m, CO, POOH wiper trip. Lay out 17½" stabiliser. RIH to bottom, no fill. CO, POOH for CSG. DS @ 259m - 1°
Rig up for and run 27 Joints 13-3/8" 54.5# K-55 BTRS CSG to 304m. Circulate hole clean, pump 60bbls water. Rig up H'BURTON, Pumps 10bbls water spacer, pressure test lines. Pump a further 10bbls and cement CSG w/- 148bbl 12,5ppg lead, followed by 80bbls 15.8ppg tail-in cmt. Drop plug and displace cement with 148bbls lease water, using HALLIBURTON.
Bump plug and test casing - OK. Cement job complete after midnight.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	100	Desander		INITIAL VOLUME	729
Premix (recirc from sump)		Desilter			
Drill Water	150	Downhole	331	+ FLUID RECEIVED	250
Direct Recirc Sump		Dumped	30	- FLUID LOST	390
Other (eg Diesel)		Centrifuge	29	+ FLUID IN STORAGE	0
TOTAL RECEIVED	250	TOTAL LOST	390	FINAL VOLUME	589

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	9	Desander	NA	0	Shaker #1	4 x 84	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 84	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	8.8	15.1	1.60
	0		0

Product	Price	Start	Received	Used	Close	Cost
AUS-BEN	$ 11.25	190		22	168	$ 247.50
Baryte	$ 8.20	720		48	672	$ 393.60
Caustic Soda	$ 48.90	26		1	25	$ 48.90
KWIKSEAL - C	$ 56.39	44		9	35	$ 507.51
KWIKSEAL- M	$ 56.39	72		16	56	$ 902.24

Solids Analysis

	%	PPB
High Grav solids	0.3	4.48
Total LGS	4.1	38.8
Bentonite	2.0	18.1
Drilled Solids	2.1	19.2
Salt	0.0	0.4
n @ 08:15 Hrs	0.56	
K @ 08:15 Hrs	2.97	

Bit Hydraulics & Pressure Data

Jet Velocity	217
Impact force	765
HHP	168
HSI	0.7
Bit Press Loss	381
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	9.02 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$2,099.75	$12,186.81

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	3	Date :	10-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	307 to 307		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 12.25	TYPE		20 SURFACE SET @	40 ft / 12 M		HOLE 156	PITS 40	PUMP SIZE 6 X 8.5 Inches		CIRCULATION PRESS (PSI)	0 psi
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length Mtrs	13 3/8 INTERMEDIATE SET @	997 ft / 304 M		TOTAL CIRCULATING VOL. 196		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 4.50	TYPE HW	Length Mtrs	PRODUCTION/ LINER Set @	ft / M		IN STORAGE 550		BBL/STK@ 100% 0.0743	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (") 8.00	6.25	Length Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	

MUD PROPERTIES		
SAMPLE FROM	P/Suction	
TIME SAMPLE TAKEN	17:30	
DEPTH (ft) - (m) Metres	307	
FLOWLINE TEMPERATURE ^{0}C ^{0}F	20	68
WEIGHT ppg / SG	8.70	1.044
FUNNEL VISCOSITY (sec/qt) API @ 20 ^{0}C	45	
PLASTIC VISCOSITY cP @ 50 ^{0}C	5	
YIELD POINT (lb/100ft^2)	7	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min	2	3
RHEOLOGY q 600 / q 300	17	12
RHEOLOGY q 200 / q 100	10	7
RHEOLOGY q 6 / q 3	2	1
FILTRATE API (cc's/30 min)	14.6	
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F	--	
CAKE THICKNESS API : HPHT (32nd in)	1	
SOLIDS CONTENT (% by Volume)	0.3	
LIQUID CONTENT (% by Volume) OIL/WATER	0	99.7
SAND CONTENT (% by Vol.)	0	
METHYLENE BLUE CAPACITY (ppb equiv.)	1.0	
pH	10.5	
ALKALINITY MUD (Pm)	0.68	
ALKALINITY FILTRATE (Pf / Mf)	0.38	0.98
CHLORIDE (mg/L)	38,000	
TOTAL HARDNESS AS CALCIUM (mg/L)	40	
SULPHITE (mg/L)	--	
K+ (mg/L)	38,325	
KCl (% by Wt.)	7.3	
PHPA (ppb)	0.59	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Prepare 550bbls base for new 5% KCl/PHPA/Polymer fluid system.
Continue shearing newly mixed fluid because of PHPA content.
Casing and pill tank contain drill water for drilling out shoe track.
Replace one damaged 84-mesh screen panel on each FLC-514.

Circulating fluid in well+pill tk (active) is water; remaining tanks hold KCl/PHPA/POLYMER fluid.

OPERATIONS SUMMARY

WOC, back-out landing jt, install bradenhead. Carry out cement top-up, as CMT did not reach SFC when CSG was cemented. Install, function and pressure test BOP stack. Modify and install riser+F/line.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	550	Desander		INITIAL VOLUME	589
Premix (recirc from sump)		Desilter			
Drill Water	40	Downhole	0	+ FLUID RECEIVED	590
Direct Recirc Sump		Dumped	434	- FLUID LOST	434
Other (eg Diesel)		Centrifuge	0	FLUID in STORAGE	550
TOTAL RECEIVED	590	TOTAL LOST	434	FINAL VOLUME	746

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander	NA	0	Shaker #1	4 x 84	0
Degasser		0	Desilter	0		Shaker #2	4 x 84	0

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	
		0	

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	32		2	30	$ 370.70
AMC Defoamer	$ 146.40	12		2	10	$ 292.80
AMC PAC-L	$ 159.98	80		8	72	$ 1,279.84
AMC PHPA	$ 118.90	90		5	85	$ 594.50
Caustic Soda	$ 48.90	25		3	22	$ 146.70
Potassium Chloride (	$ 18.95	504		252	252	$ 4,775.40
Xanthan Gum	$ 359.25	30		8	22	$ 2,874.00

Solids Analysis	%	PPB
High Grav solids		
Total LGS	0.3	2.4
Bentonite	0.1	0.8
Drilled Solids	0.2	1.5
Salt	2.3	22.0
n @ 17:30 Hrs	0.50	
K @ 17:30 Hrs	2.68	

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

DAILY COST	CUMULATIVE COST
$10,333.94	$22,520.75

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	4	Date :	11-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	307 to 310		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	14	14	14	20 SURFACE SET @	40	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	950 psi
12.25	XRCPS	14				12	M	133	370	6 X 8.5 Inches			
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length	48	Mtrs	13 3/8 INTERMEDIATE SET @	997	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	8 min
						304	M	503		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length	115	Mtrs	PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	41 min
							M	30		0.0743	180		
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	103 / 155 120
8.00	6.25	45	103	Mtrs	5% KCl-PHPA-POLYMER					12.97	545		

MUD PROPERTIES		
SAMPLE FROM		Below shkrs
TIME SAMPLE TAKEN		23:30
DEPTH (ft) - (m) Metres		310
FLOWLINE TEMPERATURE ^{0}C / ^{0}F		24 / 75
WEIGHT ppg / SG		8.75 / 1.050
FUNNEL VISCOSITY (sec/qt) API @ 24 ^{0}C		40
PLASTIC VISCOSITY cP @ 50 ^{0}C		5
YIELD POINT (lb/100ft^2)		6
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1 / 2
RHEOLOGY q 600 / q 300		16 / 11
RHEOLOGY q 200 / q 100		8 / 6
RHEOLOGY q 6 / q 3		1 / 1
FILTRATE API (cc's/30 min)		12.0
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		0.6
LIQUID CONTENT (% by Volume) OIL/WATER		0 / 99.4
SAND CONTENT (% by Vol.)		0
METHYLENE BLUE CAPACITY (ppb equiv.)		1.0
pH		12.0
ALKALINITY MUD (Pm)		1.45
ALKALINITY FILTRATE (Pf / Mf)		0.56 / 1.30
CHLORIDE (mg/L)		34,000
TOTAL HARDNESS AS CALCIUM (mg/L)		180
SULPHITE (mg/L)		--
K+ (mg/L)		36,750
KCl (% by Wt.)		7.0
PHPA (ppb)	0.59	0.59

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Keep shearing newly mixed fluid, using mix- and/or one mud pump.
Shearing effective, no run-off at shakers at displacement.
Fill sandtrap with returned fluid, prepare to build extra volume w/-
KCl/POLYMER pre-mix.

No mud chemical usage last 24 hours. Received one load mud chem's,
for details see below.

OPERATIONS SUMMARY

P/U 111 jts DP, make up 37stands in derrick, Make up NB 2,
12¼" SMITH XRCPS, SN MY0188, 4x14jets,8"DC, 12¼"stab, 8"DC,
12¼"stab, 3x8"DC, XO, 1x6½"NMDC, 10x6½"DC, jars, 1x6½"DC,
12x4½"HWDP, RIH on 4½"DP, tag CMT @ 292m. Drill out shoe-
track+rat hole to 307mcw/- water (114spm-440psi). Displace to
to KCl/PHPA/POLYMER fluid, dump water returns.
Make new hole from 307>310m, circulate hole clean. Conduct FIT
with 8.8ppg fluid in hole. 170psi applied - 12.0ppg Equiv MWt.
Resume drilling @ 310m at 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	746
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	213	- FLUID LOST	213
Other (eg Diesel)		Centrifuge	0	FLUID in STORAGE	30
TOTAL RECEIVED		TOTAL LOST	213	FINAL VOLUME	533

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander	NA	0	Shaker #1	4 x 84	10
Degasser		0	Desilter	0	0	Shaker #2	4 x 84	10

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	
	0		0

Product	Price	Start	Received	Used	Close	Cost
Potassium Chloride (T	$ 18.95	252	784	0	1036	$ 0.00
ROD-FREE 25Lt	$ 124.85	1	7	0	8	$ 0.00
Sodium Sulphite	$ 33.30		84	0	84	$ 0.00
Xanthan Gum	$ 359.25	22	30	0	52	$ 0.00

Solids Analysis

	%	PPB
High Grav solids		
Total LGS	0.6	5.4
Bentonite	0.1	0.5
Drilled Solids	0.5	4.7
Salt	2.1	19.7
n @ 23:30 Hrs	0.54	
K @ 23:30 Hrs	1.93	

Bit Hydraulics & Pressure Data

Jet Velocity	290
Impact force	716
HHP	210
HSI	1.8
Bit Press Loss	662
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	8.77 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$0.00	$22,520.75

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	5	Date :	12-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	310 to 884		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	14	14	14	20 SURFACE SET @	40	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1650 psi
12.25	XRCPS	14				12	M	387	420	6 X 8.5 Inches			
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 622 Mtrs			13 3/8 INTERMEDIATE SET @	997	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	22 min
						304	M	807		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs			PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	52 min
							M	20		0.0743	220		
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	126 / 190 / 147
8.00	6.25	45	103	Mtrs	5% KCl-PHPA-POLYMER					15.86	666		

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			10:40	22:00
DEPTH (ft) - (m)		Metres	587	883
FLOWLINE TEMPERATURE	^{0}C	^{0}F	34	39 / 102
WEIGHT		ppg / SG	9.15 / 1.098	9.20 / 1.104
FUNNEL VISCOSITY (sec/qt) API @		39 ^{0}C	38	38
PLASTIC VISCOSITY cP @		50 ^{0}C	7	7
YIELD POINT (lb/100ft^2)			11	9
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			2 / 5	2 / 4
RHEOLOGY q 600 / q 300			25 / 18	23 / 16
RHEOLOGY q 200 / q 100			14 / 10	13 / 10
RHEOLOGY q 6 / q 3			3 / 2	2 / 2
FILTRATE API (cc's/30 min)			9.0	9.4
HPHT FILTRATE (cc's/30 min) @		-- ^{0}F	--	--
CAKE THICKNESS API : HPHT (32nd in)			1	1
SOLIDS CONTENT (% by Volume)			3.3	4.0
LIQUID CONTENT (% by Volume) OIL/WATER			0 / 96.7	0 / 96.0
SAND CONTENT (% by Vol.)			1.50	1.75
METHYLENE BLUE CAPACITY (ppb equiv.)			5.0	9.0
pH			9.8	9.5
ALKALINITY MUD (Pm)			0.50	0.22
ALKALINITY FILTRATE (Pf / Mf)			0.21 / 0.51	0.10 / 0.45
CHLORIDE (mg/L)			30,500	26,000
TOTAL HARDNESS AS CALCIUM (mg/L)			280	380
SULPHITE (mg/L)			150	250
K+ (mg/L)			35,700	29,925
KCl (% by Wt.)			6.8	5.7
PHPA (ppb)			0.87	1.00

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Prepare pre-mixed volume pills as required to mainbtain sufficient SFC volume. Centrifuge put on line @ 01:30 hours; though-put 50>55gpm, Cake 2.2 gpm @16.5ppg.
Change all 8 shaker screen panels on both shakers to 110-mesh.
D/hole losses averaging 15bbls/hr, maintain LCM additions,
Using an estimated 65% of recycled fluid for pre-mixed volume pills.

OPERATIONS SUMMARY

Between 340 and 380m down-hole losses re-appear, adding LCM.
Drill to 450m, DS @ 400m - 1¼° N21W; drill to 594m, DS @ 544m - ¾° N20E. Drill to 739m, DS @ 690m - ½°S60W. Drill to 884m, CO, pump XANTHAN Gum based HiVis sweep, mix and pump heavy DS @ 834m - ¼°N60W
Make wiper trip, POOH to 478m @ 2400 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	200	Desander		INITIAL VOLUME	533
Premix (recirc from sump)	450	Desilter			
Drill Water		Downhole	286	+ FLUID RECEIVED	650
Direct Recirc Sump		Dumped		- FLUID LOST	356
Other (eg Diesel)		Centrifuge	70	FLUID in STORAGE	20
TOTAL RECEIVED	650	TOTAL LOST	356	FINAL VOLUME	827

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	22.5	Desander	NA	0	Shaker #1	4 x 110	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 110	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.1	16.5	2.20
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	30		4	26	$ 741.40
AMC Defoamer	$ 146.40	10		1	9	$ 146.40
AMC PAC-L	$ 159.98	72		14	58	$ 2,239.72
AMC PHPA	$ 118.90	85		14	71	$ 1,664.60
Baryte	$ 8.20	672		32	640	$ 262.40
Caustic Soda	$ 48.90	22		3	19	$ 146.70
Citric Acid	$ 73.25	40		2	38	$ 146.50
Class A Cement	$ 11.33	252		22	230	$ 249.26
KWIKSEAL- M	$ 56.39	56		20	36	$ 1,127.80
Potassium Chloride (	$ 18.95	1036		276	760	$ 5,230.20
Sodium Sulphite	$ 33.30	84		6	78	$ 199.80
Xanthan Gum	$ 359.25	52		15	37	$ 5,388.75

Solids Analysis

	%	PPB
High Grav solids	0.1	2.13
Total LGS	3.9	36.6
Bentonite	0.6	5.8
Drilled Solids	3.2	29.3
Salt	1.6	15.1
n @ 22:00 Hrs	0.52	
K @ 22:00 Hrs	3.13	

Bit Hydraulics & Pressure Data

Jet Velocity	354
Impact force	1125
HHP	404
HSI	3.4
Bit Press Loss	1039
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	10.07 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$17,543.53	$40,064.28

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	6	Date :	13-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	884 to 1250		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	14	14	14	20 SURFACE	40	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
12.25	XRCPS	14			SET @	12	M	549	415	6 X 8.5 Inches		PRESS (PSI)	1850 psi
DRILL PIPE	TYPE	Length			13 3/8 INTERMEDIATE	997	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 4.5	16.6 #	988	Mtrs		SET @	304	M	964		3 x NAT 8-P80	97 %	UP (min)	31 min
DRILL PIPE	TYPE	Length			PRODUCTION/		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 4.50	HW	115	Mtrs		LINER Set @		M	65		0.0743	220	TIME (min)	65 min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	126
8.00	6.25	45	103	Mtrs	5% KCl-PHPA-POLYMER					15.86	666	(ft/min) DCs	190 147

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			10:25	21:00
DEPTH (ft) - (m)		Metres	1,097	1,224
FLOWLINE TEMPERATURE	^{0}C	^{0}F	41	48 118
WEIGHT	ppg / SG		9.25 1.110	9.30 1.116
FUNNEL VISCOSITY (sec/qt) API @	48 ^{0}C		39	40
PLASTIC VISCOSITY cP @	50 ^{0}C		8	9
YIELD POINT (lb/100ft^2)			12	12
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			3 6	3 7
RHEOLOGY q 600 / q 300			28 20	30 21
RHEOLOGY q 200 / q 100			16 12	18 13
RHEOLOGY q 6 / q 3			3 2	3 2
FILTRATE API (cc's/30 min)			9.4	9.4
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F		--	--
CAKE THICKNESS API : HPHT (32nd in)			1	1
SOLIDS CONTENT (% by Volume)			4.3	4.7
LIQUID CONTENT (% by Volume) OIL/WATER			0 95.7	0 95.3
SAND CONTENT (% by Vol.)			1.00	¾
METHYLENE BLUE CAPACITY (ppb equiv.)			11.3	13.3
pH			9.0	9.5
ALKALINITY MUD (Pm)			0.16	0.02
ALKALINITY FILTRATE (Pf / Mf)			0.08 0.42	0.05 0.55
CHLORIDE (mg/L)			27,000	26,000
TOTAL HARDNESS AS CALCIUM (mg/L)			500	540
SULPHITE (mg/L)			250	250
K+ (mg/L)			30,975	30,450
KCl (% by Wt.)			5.9	5.8
PHPA (ppb)			1.01	0.97

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Seepage losses gradually healed. Able to make up KCl/POLYMER entirely with fluid recycled from sump. Analysis indicates 3600mg/l Chloride; Alkalinity: 0.76/1.05; KCl - Trc., Ca+Mg - 400mg/l; Higher total hardness from this source necessitates treament with Soda Ash. Sufficient viscosity in system allows use of XTRA SWEEP for HiVis sweep.

OPERATIONS SUMMARY

POOH to 270m, RIH to bottom, no fill - resume drilling.
Drill to 1143m, DS @1094m - 1¾°N18W. Drill to 1250m @ 2400.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	827
Premix (recirc from sump)	300	Desilter			
Drill Water		Downhole	30	+ FLUID RECEIVED	300
Direct Recirc Sump		Dumped		- FLUID LOST	98
Other (eg Diesel)		Centrifuge	68	FLUID in STORAGE	65
TOTAL RECEIVED	300	TOTAL LOST	98	FINAL VOLUME	1,029

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	24	Desander	NA	0	Shaker #1	4 x 175	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.0	2.00
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	26		1	25	$ 185.35
AMC Defoamer	$ 146.40	9		1	8	$ 146.40
AMC PAC-L	$ 159.98	58		6	52	$ 959.88
AMC PHPA	$ 118.90	71		3	68	$ 356.70
Caustic Soda	$ 48.90	19		3	16	$ 146.70
KWIKSEAL- M	$ 56.39	36		5	31	$ 281.95
Potassium Chloride (	$ 18.95	760		100	660	$ 1,895.00
Soda Ash	$ 18.30	48		8	40	$ 146.40
Sodium Sulphite	$ 33.30	78		4	74	$ 133.20
Xanthan Gum	$ 359.25	37		7	30	$ 2,514.75
XTRA - Sweep	$ 110.90	10		1	9	$ 110.90

Solids Analysis

	%	PPB
High Grav solids	0.1	1.52
Total LGS	4.6	43.5
Bentonite	1.1	9.9
Drilled Solids	3.5	31.9
Salt	1.6	15.1
n @ 21:00 Hrs	0.51	
K @ 21:00 Hrs	4.34	

Bit Hydraulics & Pressure Data

Jet Velocity	354
Impact force	1137
HHP	408
HSI	3.5
Bit Press Loss	1050
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	9.36 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$6,877.23	$46,941.51

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	7	Date :	14-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	1250 to 1255		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	14	14	14	20 SURFACE SET @	40	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1850 psi
12.25	XRCPS	14				12	M	551	343	6 X 8.5 Inches			
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 993 Mtrs			13 3/8 INTERMEDIATE SET @	997	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	31 min
						304	M	894		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs			PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	56 min
							M			0.0743	220		
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	126 / 190 147
8.00	6.25	45	103	Mtrs	5% KCl-PHPA-POLYMER					15.86	666		

MUD PROPERTIES		
SAMPLE FROM	Below shkrs	Below shkrs
TIME SAMPLE TAKEN		05:15
DEPTH (ft) - (m) Metres		1,255
FLOWLINE TEMPERATURE ^{0}C ^{0}F		46 116
WEIGHT ppg / SG		9.30 1.116
FUNNEL VISCOSITY (sec/qt) API @ 46 ^{0}C		40
PLASTIC VISCOSITY cP @ 50 ^{0}C		8
YIELD POINT (lb/100ft^2)		12
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		3 6
RHEOLOGY q 600 / q 300		28 20
RHEOLOGY q 200 / q 100		17 12
RHEOLOGY q 6 / q 3		3 2
FILTRATE API (cc's/30 min)		9.2
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		4.5
LIQUID CONTENT (% by Volume) OIL/WATER		0 95.5
SAND CONTENT (% by Vol.)		½
METHYLENE BLUE CAPACITY (ppb equiv.)		13.3
pH		9.5
ALKALINITY MUD (Pm)		0.32
ALKALINITY FILTRATE (Pf / Mf)		0.08 0.43
CHLORIDE (mg/L)		26,600
TOTAL HARDNESS AS CALCIUM (mg/L)		400
SULPHITE (mg/L)		150
K+ (mg/L)		32,025
KCl (% by Wt.)		6.1
PHPA (ppb)		0.97

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

No chemical treatment last 24 hours, Only barite used for pill.
Circulating volumes shown reflect conditions with drill string in hole;
Total volumes with casing in hole are comparable (except bottoms-up time, due to different annular volume and pump rate.

Received additional mud chemicals, refer entries below

OPERATIONS SUMMARY

Drill to casing depth at 1255m. DS @ 1200m - 1½°N25E. Mixed and pumped 0.4ppb XTRA-SWEEP & CO. Observed Tight hole, max. over-pull seen 35K lbs. Pulled back to 864m, before RIH to 1221m, Work tight hole at 1221m and RIH to BTM. Pump 2nd sweep, CO + POOH for CSG. Tight hole conditions+swabbing seen around 1114m. With BHA at surface, lay out stabilisers+2x 8"DC. Rig up for casing. Run 103 joints of 9 5/8" 36# K55 BTC casing to 1229m. Wash down last 2 joints.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1029
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	41	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	50	- FLUID LOST	135
Other (eg Diesel)		Centrifuge	44	FLUID in STORAGE	
TOTAL RECEIVED		TOTAL LOST	135	FINAL VOLUME	894

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	14.5	Desander	NA	0	Shaker #1	4 x 175	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.3	2.10
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	52	64	0	116	$ 0.00
Baryte	$ 8.20	640	400	40	1000	$ 328.00
KWIKSEAL - C	$ 56.39	35	32	0	67	$ 0.00
KWIKSEAL- M	$ 56.39	31	9	0	40	$ 0.00
Potassium Chloride ('	$ 18.95	660	378	0	1038	$ 0.00
Xanthan Gum	$ 359.25	30	60	0	90	$ 0.00

Solids Analysis	%	PPB
High Grav solids	0.1	1.52
Total LGS	4.4	41.8
Bentonite	1.1	10.1
Drilled Solids	3.3	30.1
Salt	1.6	15.4
n @ 05:15 Hrs	0.49	
K @ 05:15 Hrs	4.96	

Bit Hydraulics & Pressure Data	
Jet Velocity	354
Impact force	1137
HHP	408
HSI	3.5
Bit Press Loss	1050
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	9.36 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$328.00	$47,269.51

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	8	Date :	15-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	1255 to 1255		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 8.50	TYPE		13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 318	PITS 622	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	psi
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length Mtrs	9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 940		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 4.50	TYPE HW	Length Mtrs	PRODUCTION/ LINER Set @	ft / M		IN STORAGE		BBL/STK@ 100% 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (") 8.00	6.25	Length Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	

MUD PROPERTIES		
SAMPLE FROM	Below shkrs	Below shkrs
TIME SAMPLE TAKEN		21:45
DEPTH (ft) - (m) Metres		1,255
FLOWLINE TEMPERATURE ^{0}C ^{0}F		31 / 88
WEIGHT ppg / SG		9.20 / 1.104
FUNNEL VISCOSITY (sec/qt) API @ 31 ^{0}C		40
PLASTIC VISCOSITY cP @ 50 ^{0}C		7
YIELD POINT (lb/100ft^2)		10
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2 / 4
RHEOLOGY q 600 / q 300		24 / 17
RHEOLOGY q 200 / q 100		14 / 10
RHEOLOGY q 6 / q 3		3 / 2
FILTRATE API (cc's/30 min)		9.2
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		3.8
LIQUID CONTENT (% by Volume) OIL/WATER		0 / 96.2
SAND CONTENT (% by Vol.)		¼
METHYLENE BLUE CAPACITY (ppb equiv.)		15.0
pH		8.8
ALKALINITY MUD (Pm)		0.10
ALKALINITY FILTRATE (Pf / Mf)		0.06 / 0.41
CHLORIDE (mg/L)		25,000
TOTAL HARDNESS AS CALCIUM (mg/L)		440
SULPHITE (mg/L)		80
K+ (mg/L)		29,925
KCl (% by Wt.)		5.7
PHPA (ppb)		0.90

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Full returns were observed while pumping and displacing cement, however, only cement contaminated water spacer was seen @ SFC. At completion of cement job, circulate though all tanks, activate centrifuge and run for 14 hours, to clean up fluid system with a view to reduce sand and solids content.

Fit nr 1 shaker w/- 4x210 mesh PYRAMID screen panels
Commence changing liners on all pumps from 6 to 5 inch.

No mud chemicals used last 24 hours.

OPERATIONS SUMMARY

Wash last CSG jt to 1253m, circulate hole clean, pump 50bbls water spacer. Rig up HALLIBURTON, pressure test lines to 4000psi. Cement casing with shoe at 1252m, using 296bbls 12.5 ppg lead CMT, follow with 30bbls 15.8ppg tail-in. Drop plug, displace CMT with 311bbls mud, using one rig pump @ 80SPM, 5.8bpm. Bump plug and hold pressure, HALLIBURTON take over for pressure test; 2800psi for 10 minutes - OK. Flush BOP stack, WOC. Lift BOPs, set CSG slips, cut 9 5/8"CSG, dress stump, install spool and stack.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	894
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	46
Direct Recirc Sump		Dumped		- FLUID LOST	0
Other (eg Diesel)	46	Centrifuge		FLUID in STORAGE	
TOTAL RECEIVED	46	TOTAL LOST	0	FINAL VOLUME	940

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	14	Desander	NA	0	Shaker #1	4 x 210	0
Degasser		0	Desilter	0	0	Shaker #2	4 x 175	0

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.1	16.1	1.80
	0		0

Product	Price	Start	Received	Used	Close	Cost

Solids Analysis

	%	PPB
High Grav solids	0.2	3.53
Total LGS	3.6	34.1
Bentonite	1.4	13.0
Drilled Solids	2.2	19.8
Salt	1.5	14.5
n @ 21:45 Hrs	0.50	
K @ 21:45 Hrs	3.91	

Bit Hydraulics & Pressure Data

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

DAILY COST	CUMULATIVE COST
	$47,269.51

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	9	Date :	16-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	1255 to 1255		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 8.50	TYPE DSX519M-A5	12	12	12	13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 262	PITS 637	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	600 psi
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 969 Mtrs			9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 899		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	27 min
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs			PRODUCTION/ LINER Set @	ft / M		IN STORAGE		BBL/STK@ 100% 0.0516	STK / MIN 150	TOTAL CIRC. TIME (min)	120 min
DRILL COLLAR SIZE (") 6.50	6.25	Length 31	140 Mtrs		MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN 7.51	GAL / MIN 315	ANN VEL. (ft/min) DP 149 / DCs 258	233

MUD PROPERTIES				
SAMPLE FROM		Storage		Below shkrs	
TIME SAMPLE TAKEN		21:00		23:45	
DEPTH (ft) - (m)	Metres	1,255		1,255	
FLOWLINE TEMPERATURE	^{0}C / ^{0}F	28	83	36	96
WEIGHT	ppg / SG	9.10	1.092	9.10	1.092
FUNNEL VISCOSITY (sec/qt) API @	36 ^{0}C	41		50	
PLASTIC VISCOSITY cP @	50 ^{0}C	7		9	
YIELD POINT (lb/100ft^2)		9		13	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2	3	3	9
RHEOLOGY q 600 / q 300		23	16	31	22
RHEOLOGY q 200 / q 100		13	10	18	14
RHEOLOGY q 6 / q 3		2	2	4	4
FILTRATE API (cc's/30 min)		8.8		9.8	
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F	--		--	
CAKE THICKNESS API : HPHT (32nd in)		1		1	
SOLIDS CONTENT (% by Volume)		3.1		3.1	
LIQUID CONTENT (% by Volume) OIL/WATER		0	96.9	0	96.9
SAND CONTENT (% by Vol.)		0.10		0.20	
METHYLENE BLUE CAPACITY (ppb equiv.)		11.7		13.3	
pH		9.0		12.0	
ALKALINITY MUD (Pm)		0.13		2.90	
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.72	0.92	1.45
CHLORIDE (mg/L)		24,500		23,500	
TOTAL HARDNESS AS CALCIUM (mg/L)		180		200	
SULPHITE (mg/L)		250		100	
K+ (mg/L)		29,925		28,875	
KCl (% by Wt.)		5.7		5.5	
PHPA (ppb)		0.96		0.96	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.6 - 9.4	API Filtrate	6 - 10	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	15 - 35	pH	9.0 - 9.5
KCl	>5%	PHPA	0.2 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Treat fluid @ SFC w/- Soda ash, Sodium Suphite, PHPA+Biocide, while centrifuging for 12 hours.

Mud-check @21:00 hrs: SFC volume processed w/- centrifuge for a total of 26hrs.
Mud-check @ 23:45 hrs: Short system drilling shoe-track (CMT). (Fluid from inside CSG not processed through centrifuge).

OPERATIONS SUMMARY

Complete BOP installation and tests; make up stands of DP and stand in derrick. Make up 8½"BHA, starting w/- HYCALOG DSX519M-A5 PDC bit, SN 211741, 5x12 jets and NB Stab, 2 string stab., 1x6¼NMDC a total of 15x6¼"DC, Jar and 12x4½"HWDP. RIH to float collar. Cut+slip DRLG line, RIH, tag CMT @ 1239m. Drill out shoe track. using a shortened SFC mud system. Bit @ 1255m @ 2400 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	940
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	8	- FLUID LOST	41
Other (eg Diesel)		Centrifuge	33	FLUID in STORAGE	
TOTAL RECEIVED		TOTAL LOST	41	FINAL VOLUME	899

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	12	Desander	NA	0	Shaker #1	4 x 210	12
Degasser		0	Desilter	0	0	Shaker #2	4 x 175	12

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.0	16.0	1.90
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	25		1	24	$ 185.35
AMC PHPA	$ 118.90	68		1	67	$ 118.90
Citric Acid	$ 73.25	38		2	36	$ 146.50
Soda Ash	$ 18.30	40		8	32	$ 146.40
Sodium Sulphite	$ 33.30	74		2	72	$ 66.60

Solids Analysis

	%	PPB
High Grav solids	0.2	3.53
Total LGS	2.9	27.4
Bentonite equiv.	1.3	11.8
Drilled Solids	1.6	14.5
Salt	1.4	13.6
n @ 23:45 Hrs	0.49	
K @ 23:45 Hrs	5.15	

Bit Hydraulics & Pressure Data

Jet Velocity	183
Impact force	272
HHP	50
HSI	0.9
Bit Press Loss	273
CSG Seat Frac Press	
Equiv. Mud Wt.	
ECD	9.26 ppg
Max Pressure @ Shoe :	

DAILY COST	CUMULATIVE COST
$663.75	$47,933.26

RMN ENGINEER Peter ARONETZ CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	10	Date :	17-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	1255 to 1778		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1490 psi
8.50	DSX519M-A5	12	12				304	M	364	414	5 X 8.5	Inches		
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 1492 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	27 min
							1252	M	778		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs				PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	90 min
								M	168		0.0516	210		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	208 / 361 326
6.50	6.25	31	140	Mtrs	5% KCl-PHPA-POLYMER						10.51	441		

MUD PROPERTIES					
SAMPLE FROM			Below shkrs		Below shkrs	
TIME SAMPLE TAKEN			10:50		21:25	
DEPTH (ft) - (m)		Metres	1,473		1,730	
FLOWLINE TEMPERATURE	^{0}C	^{0}F	39	103	46	115
WEIGHT		ppg / SG	9.15	1.098	9.25	1.110
FUNNEL VISCOSITY (sec/qt) API @	46 ^{0}C		45		45	
PLASTIC VISCOSITY cP @	50 ^{0}C		9		10	
YIELD POINT (lb/100ft^2)			14		14	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			3	11	3	12
RHEOLOGY q 600 / q 300			32	23	34	24
RHEOLOGY q 200 / q 100			19	14	20	16
RHEOLOGY q 6 / q 3			4	3	4	3
FILTRATE API (cc's/30 min)			9.6		9.0	
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F		--		--	
CAKE THICKNESS API : HPHT (32nd in)			1		1	
SOLIDS CONTENT (% by Volume)			3.3		4.0	
LIQUID CONTENT (% by Volume) OIL/WATER			0	96.7	0	96.0
SAND CONTENT (% by Vol.)			0.20		0.25	
METHYLENE BLUE CAPACITY (ppb equiv.)			13.3		15.0	
pH			10.5		10.5	
ALKALINITY MUD (Pm)			0.88		0.65	
ALKALINITY FILTRATE (Pf / Mf)			0.28	1.35	0.21	1.00
CHLORIDE (mg/L)			24,000		22,000	
TOTAL HARDNESS AS CALCIUM (mg/L)			240		220	
SULPHITE (mg/L)			250		200	
K+ (mg/L)			30,450		29,400	
KCl (% by Wt.)			5.8		5.6	
PHPA (ppb)			0.93		0.90	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Treat cement contamination of fluid in shortened system, then combine with centrifuged fluid at SFC. With increasing fluid density upgraded screen panels on Nr 2 shaker from 175 to 210-mesh.

OPERATIONS SUMMARY

Drill to 1258m, CO and conduct leak-off test w/- 9.1ppg fluid in hole.
Leak-off established at 1000psi, Equiv MW: 13.7ppg. Resume drilling

Drill to:	DS @	Reading:
1374m	1362m	1°N20E
1519m	1507m	¾°N65E
1663m	1652m	2¼°N25E

Drill to 1778m @ 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	899
Premix (recirc from sump)	180	Desilter			
Drill Water		Downhole	23	+ FLUID RECEIVED	180
Direct Recirc Sump		Dumped	50	- FLUID LOST	133
Other (eg Diesel)		Centrifuge	60	FLUID in STORAGE	168
TOTAL RECEIVED	180	TOTAL LOST	133	FINAL VOLUME	946

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	20	Desander	NA	0	Shaker #1	4 x 210	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 175	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.2	2.10
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	24		2	22	$ 370.70
AMC PAC-L	$ 159.98	116		11	105	$ 1,759.78
AMC PHPA	$ 118.90	67		2	65	$ 237.80
Caustic Soda	$ 48.90	16		1	15	$ 48.90
Citric Acid	$ 73.25	36		2	34	$ 146.50
Potassium Chloride (	$ 18.95	1038		72	966	$ 1,364.40
Soda Ash	$ 18.30	32		8	24	$ 146.40
Sodium Sulphite	$ 33.30	72		8	64	$ 266.40
Xanthan Gum	$ 359.25	90		4	86	$ 1,437.00
XTRA - Sweep	$ 110.90	9		1	8	$ 110.90

Solids Analysis	%	PPB
High Grav solids	0.2	2.89
Total LGS	3.8	35.9
Bentonite equiv.	1.4	12.7
Drilled Solids	2.4	21.8
Salt	1.3	12.7
n @ 21:25 Hrs	0.50	
K @ 21:25 Hrs	5.35	

Bit Hydraulics & Pressure Data	
Jet Velocity	256
Impact force	541
HHP	140
HSI	2.5
Bit Press Loss	544
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	950 psi

DAILY COST	CUMULATIVE COST
$5,888.78	$53,822.04

RMN ENGINEER Peter ARONETZ CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	11	Date :	18-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	1778 to 2125		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER

WELL NAME AND No	FIELD	LOCATION	STATE
GLENAIRE # 1	PEP 160	OTWAY Basin	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
8.50	DSX519M-A5	12	12				304	M	431	400	5 X 8.5	Inches	PRESS (PSI)	1580	psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 4.5	16.6 #	1839	Mtrs				1252	M	831		3 x NAT 8-P80	97 %	UP (min)	32	min
DRILL PIPE	TYPE	Length				PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.		
SIZE 4.50	HW	115	Mtrs					M	198		0.0516	216	TIME (min)	95	min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	214	
6.50	6.25	31	140	Mtrs	5% KCl-PHPA-POLYMER						10.81	454	(ft/min) DCs	371 335	

		MUD PROPERTIES			
SAMPLE FROM		Below shkrs		Below shkrs	
TIME SAMPLE TAKEN		11:00		21:45	
DEPTH (ft) - (m)	Metres	1,904		2,084	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	49	121	51	124
WEIGHT	ppg / SG	9.30	1.116	9.30	1.116
FUNNEL VISCOSITY (sec/qt) API @	51 ^{0}C	45		42	
PLASTIC VISCOSITY cP @	50 ^{0}C	10		10	
YIELD POINT (lb/100ft^2)		17		14	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		3	12	3	10
RHEOLOGY q 600 / q 300		37	27	34	24
RHEOLOGY q 200 / q 100		22	16	20	15
RHEOLOGY q 6 / q 3		4	3	4	3
FILTRATE API (cc's/30 min)		8.2		8.4	
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F	--		--	
CAKE THICKNESS API : HPHT (32nd in)		1		1	
SOLIDS CONTENT (% by Volume)		4.5		4.5	
LIQUID CONTENT (% by Volume) OIL/WATER		0	95.5	0	95.5
SAND CONTENT (% by Vol.)		¼		¼	
METHYLENE BLUE CAPACITY (ppb equiv.)		16.7		17.5	
pH		9.5		9.8	
ALKALINITY MUD (Pm)		0.33		0.28	
ALKALINITY FILTRATE (Pf / Mf)		0.11	0.65	0.10	0.62
CHLORIDE (mg/L)		24,600		25,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		320		280	
SULPHITE (mg/L)		250		250	
K+ (mg/L)		30,450		30,975	
KCl (% by Wt.)		5.8		5.9	
PHPA (ppb)		0.97		1.04	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Maintain fluid parameters with addtion of chemicals as listed.
Maintain SFC volume with premixed volume pills, based on fluid recycled from sump.

Replace one damaged 210-mesh shaker screen panel.
KMC/OILTOOLS technician will attempt repairs.

OPERATIONS SUMMARY

Drill to:	DS @	Reading:
1778m	1767m	3°N15E
1865m	1854m	3¼°N10E
2010m	1999m	3¾°N35E

Drill to 2125m @ 24:00 hrs

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	946
Premix (recirc from sump)	200	Desilter			
Drill Water		Downhole	20	+ FLUID RECEIVED	200
Direct Recirc Sump		Dumped	15	- FLUID LOST	117
Other (eg Diesel)		Centrifuge	82	FLUID in STORAGE	198
TOTAL RECEIVED	200	TOTAL LOST	117	FINAL VOLUME	1,029

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	24	Desander	NA	0	Shaker #1	4 x 210	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.1	2.40
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	22		1	21	$ 185.35
AMC Defoamer	$ 146.40	8		1	7	$ 146.40
AMC PAC-L	$ 159.98	105		6	99	$ 959.88
AMC PHPA	$ 118.90	65		6	59	$ 713.40
Caustic Soda	$ 48.90	15		1	14	$ 48.90
Potassium Chloride (T	$ 18.95	966		84	882	$ 1,591.80
Soda Ash	$ 18.30	24		2	22	$ 36.60
Xanthan Gum	$ 359.25	86		4	82	$ 1,437.00

Solids Analysis

	%	PPB
High Grav solids	0.2	2.34
Total LGS	4.3	40.8
Bentonite equiv.	1.6	15.0
Drilled Solids	2.7	24.2
Salt	1.5	14.5
n @ 21:45 Hrs	0.50	
K @ 21:45 Hrs	5.35	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	576
HHP	153
HSI	2.7
Bit Press Loss	579
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	940 psi

DAILY COST	CUMULATIVE COST
$5,119.33	$58,941.37

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	12	Date :	19-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	2125 to 2365		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1600 psi
8.50	DSX519M-A5	12	12				304	M	478	350	5 X 8.5	Inches		
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 2079 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	35 min
							1252	M	828		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs				PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	90 min
								M	150		0.0516	216		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	214 / 371 / 335
6.50	6.25	31	140	Mtrs	5% KCl-PHPA-POLYMER						10.81	454		

MUD PROPERTIES					
SAMPLE FROM			Below shkrs		Below shkrs	
TIME SAMPLE TAKEN			11:00		21:50	
DEPTH (ft) - (m)		Metres	2,240		2,349	
FLOWLINE TEMPERATURE	^{0}C	^{0}F	52	126	54	128
WEIGHT		ppg / SG	9.30	1.116	9.30	1.116
FUNNEL VISCOSITY (sec/qt) API @		54 ^{0}C	46		46	
PLASTIC VISCOSITY cP @		50 ^{0}C	12		12	
YIELD POINT (lb/100ft^2)			17		17	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			4	12	5	14
RHEOLOGY q 600 / q 300			41	29	41	29
RHEOLOGY q 200 / q 100			24	18	25	18
RHEOLOGY q 6 / q 3			5	4	6	4
FILTRATE API (cc's/30 min)			7.8		7.6	
HPHT FILTRATE (cc's/30 min) @		-- ^{0}F	--		--	
CAKE THICKNESS API : HPHT (32nd in)			1		1	
SOLIDS CONTENT (% by Volume)			4.8		4.7	
LIQUID CONTENT (% by Volume) OIL/WATER			0	95.2	0	95.3
SAND CONTENT (% by Vol.)			¼		¼	
METHYLENE BLUE CAPACITY (ppb equiv.)			17.5		16.3	
pH			10.0		9.5	
ALKALINITY MUD (Pm)			0.31		0.16	
ALKALINITY FILTRATE (Pf / Mf)			0.17	0.78	0.05	0.55
CHLORIDE (mg/L)			27,400		27,700	
TOTAL HARDNESS AS CALCIUM (mg/L)			160		240	
SULPHITE (mg/L)			250		250	
K+ (mg/L)			30,450		30,975	
KCl (% by Wt.)			5.8		5.9	
PHPA (ppb)			1.04		1.05	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Maintain fluid parameters with addtion of chemicals as listed.
Maintain SFC volume with premixed volume pills, based on fluid recycled from sump.

Replace 210-mesh shaker screen panel on shaker #1 with 310-mesh

OPERATIONS SUMMARY

Drill to 2154m, DS @ 2142m - 3¼°N25E; Circulate hole clean and make wiper-trip. RIH to 2125m, Ream+wash to BTM, resume drilling.
Drill to 2299m, DS @ 2288m - 5°N10E
Drill to 2365m @ 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1029
Premix (recirc from sump)	100	Desilter			
Drill Water		Downhole	65	+ FLUID RECEIVED	100
Direct Recirc Sump		Dumped	20	- FLUID LOST	151
Other (eg Diesel)		Centrifuge	66	FLUID in STORAGE	150
TOTAL RECEIVED	100	TOTAL LOST	151	FINAL VOLUME	978

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	21	Desander	NA	0	Shaker #1	4 x 320	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.1	2.20
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	21		1	20	$ 185.35
AMC PAC-L	$ 159.98	99		5	94	$ 799.90
AMC PHPA	$ 118.90	59		2	57	$ 237.80
Caustic Soda	$ 48.90	14		1	13	$ 48.90
Potassium Chloride (	$ 18.95	882		42	840	$ 795.90
Soda Ash	$ 18.30	22		4	18	$ 73.20
Sodium Sulphite	$ 33.30	64		4	60	$ 133.20
Xanthan Gum	$ 359.25	82		2	80	$ 718.50

Solids Analysis

	%	PPB
High Grav solids	0.1	2.11
Total LGS	4.6	43.4
Bentonite equiv.	1.5	13.3
Drilled Solids	3.1	28.4
Salt	1.7	16.0
n @ 21:50 Hrs	0.50	
K @ 21:50 Hrs	6.59	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	576
HHP	153
HSI	2.7
Bit Press Loss	579
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	940 psi

DAILY COST	CUMULATIVE COST
$2,992.75	$61,934.12

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	13	Date :	20-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	2365 to 2485		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT/Barry BEETSON	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8 SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1630 psi
8.50	DSX519M-A5	12	12			304	M	501	430	5 X 8.5	Inches		
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 2202 Mtrs			9 5/8 INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	37 min
						1252	M	931		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs			PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	92 min
							M	66		0.0516	216		
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	214 / 371 335
6.50	6.25	29	140	Mtrs	5% KCl-PHPA-POLYMER					10.81	454		

MUD PROPERTIES		
SAMPLE FROM	Trip	Below shkrs
TIME SAMPLE TAKEN		21:40
DEPTH (ft) - (m) Metres		2,463
FLOWLINE TEMPERATURE ^{0}C ^{0}F		51 123
WEIGHT ppg / SG		9.40 1.128
FUNNEL VISCOSITY (sec/qt) API @ 51 ^{0}C		49
PLASTIC VISCOSITY cP @ 50 ^{0}C		12
YIELD POINT (lb/100ft^2)		18
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		5 15
RHEOLOGY q 600 / q 300		42 30
RHEOLOGY q 200 / q 100		25 18
RHEOLOGY q 6 / q 3		5 4
FILTRATE API (cc's/30 min)		7.6
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		5.5
LIQUID CONTENT (% by Volume) OIL/WATER		0 94.5
SAND CONTENT (% by Vol.)		0.20
METHYLENE BLUE CAPACITY (ppb equiv.)		17.5
pH		9.0
ALKALINITY MUD (Pm)		0.11
ALKALINITY FILTRATE (Pf / Mf)		0.08 0.68
CHLORIDE (mg/L)		28,300
TOTAL HARDNESS AS CALCIUM (mg/L)		200
SULPHITE (mg/L)		200
K+ (mg/L)		30,450
KCl (% by Wt.)		5.8
PHPA (ppb)		1.06

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

No changes in fluid system maintenance.

Received extra mud chemicals as listed below.

OPERATIONS SUMMARY

Drill to 2386m, DS @ 2374m - 6°N02E. Decision to change BHA.
Mix+pump heavy Barite pill, POOH to SFC. Lay out NBR+1xStab.
1 Stab in pos. 28m above bit. RIH remaining BHA+P/U 57x4½"DP.
Wash+ream 2353-2386m, find 5m fill. Resume drilling.
Drill to 2485m @ 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	978
Premix (recirc from sump)	90	Desilter			
Drill Water		Downhole	36	+ FLUID RECEIVED	90
Direct Recirc Sump		Dumped		- FLUID LOST	70
Other (eg Diesel)		Centrifuge	34	FLUID in STORAGE	66
TOTAL RECEIVED	90	TOTAL LOST	70	FINAL VOLUME	997

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	12	Desander	NA	0	Shaker #1	4 x 310	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.0	2.00
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	20		1	19	$ 185.35
AMC PAC-L	$ 159.98	94		6	88	$ 959.88
AMC PHPA	$ 118.90	57		2	55	$ 237.80
Baryte	$ 8.20	1000		64	936	$ 524.80
Caustic Soda	$ 48.90	13	16	1	28	$ 48.90
Potassium Chloride (	$ 18.95	840		42	798	$ 795.90
Soda Ash	$ 18.30	18	48	2	64	$ 36.60
Sodium Sulphite	$ 33.30	60		2	58	$ 66.60
Xanthan Gum	$ 359.25	80		1	79	$ 359.25
XTRA - Sweep	$ 110.90	8	4	0	12	$ 0.00

Solids Analysis

	%	PPB
High Grav solids	0.3	3.86
Total LGS	5.2	49.2
Bentonite equiv.	1.5	14.0
Drilled Solids	3.7	33.2
Salt	1.7	16.4
n @ 21:40 Hrs	0.49	
K @ 21:40 Hrs	7.44	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	582
HHP	155
HSI	2.7
Bit Press Loss	585
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	918 psi

DAILY COST	CUMULATIVE COST
$3,215.08	$65,149.20

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	14	Date :	21-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	2485 to 2753		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1750 psi
8.50	DSX519M-A5	12	12				304	M	553	422	5 X 8.5 Inches			
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 2470 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	41 min
							1252	M	975		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs				PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	103 min
								M	136		0.0516	216		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	214 / 371 335
6.50	6.25	29	140	Mtrs	5% KCl-PHPA-POLYMER						10.81	454		

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			11:20	22:15
DEPTH (ft) - (m)		Metres	2,620	2,734
FLOWLINE TEMPERATURE	^{0}C	^{0}F	56 133	56 133
WEIGHT		ppg / SG	9.40 1.128	9.40 1.128
FUNNEL VISCOSITY (sec/qt) API @	56 ^{0}C		49	48
PLASTIC VISCOSITY cP @	50 ^{0}C		12	13
YIELD POINT (lb/100ft^2)			19	16
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			5 16	4 16
RHEOLOGY q 600 / q 300			43 31	42 29
RHEOLOGY q 200 / q 100			26 19	25 18
RHEOLOGY q 6 / q 3			6 4	5 4
FILTRATE API (cc's/30 min)			7.8	7.8
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F		--	--
CAKE THICKNESS API : HPHT (32nd in)			1	1
SOLIDS CONTENT (% by Volume)			5.4	5.4
LIQUID CONTENT (% by Volume) OIL/WATER			0 94.6	0 94.6
SAND CONTENT (% by Vol.)			0.10	¼
METHYLENE BLUE CAPACITY (ppb equiv.)			16.3	20.0
pH			9.5	9.5
ALKALINITY MUD (Pm)			0.14	0.13
ALKALINITY FILTRATE (Pf / Mf)			0.10 0.70	0.13 0.64
CHLORIDE (mg/L)			28,700	28,600
TOTAL HARDNESS AS CALCIUM (mg/L)			180	200
SULPHITE (mg/L)			100	100
K+ (mg/L)			30,975	30,975
KCl (% by Wt.)			5.9	5.9
PHPA (ppb)			1.07	1.07

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Maintain SFC volume with addition of pre-mixed chemicals, fluid density steady at 9.4ppg measured below shaker screens.

OPERATIONS SUMMARY

Drill to 2496m, DS @ 2484m - Misrun;
Drill to 2526m, DS @ 2517m - 5½°N10W,
Drill to 2643m, DS @ 2632m - 6½°N35W,
Drill to 2728m, DS @ 2719m - 6¼°N45W,
Drill to 2753m @ 24:00 hrs

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	997
Premix (recirc from sump)	200	Desilter			
Drill Water		Downhole	14	+ FLUID RECEIVED	200
Direct Recirc Sump		Dumped		- FLUID LOST	86
Other (eg Diesel)		Centrifuge	72	FLUID in STORAGE	136
TOTAL RECEIVED	200	TOTAL LOST	86	FINAL VOLUME	1,111

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	24	Desander	NA	0	Shaker #1	4 x 310	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.3	16.2	2.10
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	19		1	18	$ 185.35
AMC PAC-L	$ 159.98	88		5	83	$ 799.90
AMC PHPA	$ 118.90	55		4	51	$ 475.60
Caustic Soda	$ 48.90	28		1	27	$ 48.90
Potassium Chloride (	$ 18.95	798		84	714	$ 1,591.80
Soda Ash	$ 18.30	64		4	60	$ 73.20
Sodium Sulphite	$ 33.30	58		2	56	$ 66.60

Solids Analysis

	%	PPB
High Grav solids	0.3	4.32
Total LGS	5.1	48.2
Bentonite equiv.	1.9	17.0
Drilled Solids	3.2	29.3
Salt	1.7	16.6
n @ 22:15 Hrs	0.53	
K @ 22:15 Hrs	5.30	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	582
HHP	155
HSI	2.7
Bit Press Loss	585
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	918 psi

DAILY COST	CUMULATIVE COST
$3,241.35	$68,390.55

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	15	Date :	22-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	2753 to 2935		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
8.50	DSX519M-A5	12	12				304	M	589	382	5 X 8.5	Inches	PRESS (PSI)	1800 psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 4.5	16.6 #	2652 Mtrs					1252	M	971		3 x NAT 8-P80	97 %	UP (min)	44 min
DRILL PIPE	TYPE	Length				PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 4.50	HW	115 Mtrs						M	123		0.0516	216	TIME (min)	101 min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	214
6.50	6.25	29	140	Mtrs	5% KCl-PHPA-POLYMER						10.81	454	(ft/min) DCs	371 335

		MUD PROPERTIES			
SAMPLE FROM		Below shkrs		Below shkrs	
TIME SAMPLE TAKEN		09:40		22:00	
DEPTH (ft) - (m)	Metres	2,826		2,917	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	57	135	60	139
WEIGHT	ppg / SG	9.40	1.128	9.35	1.122
FUNNEL VISCOSITY (sec/qt) API @	60 ^{0}C	50		49	
PLASTIC VISCOSITY cP @	50 ^{0}C	13		13	
YIELD POINT (lb/100ft^2)		18		19	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		5	18	5	16
RHEOLOGY q 600 / q 300		44	31	45	32
RHEOLOGY q 200 / q 100		26	19	27	20
RHEOLOGY q 6 / q 3		5	4	6	5
FILTRATE API (cc's/30 min)		8.6		8.8	
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F	--		--	
CAKE THICKNESS API : HPHT (32nd in)		1	--	1	--
SOLIDS CONTENT (% by Volume)		5.5		5.2	
LIQUID CONTENT (% by Volume) OIL/WATER		0	94.5	0	94.8
SAND CONTENT (% by Vol.)		¼		0.15	
METHYLENE BLUE CAPACITY (ppb equiv.)		17.5		15.0	
pH		9.8		10.0	
ALKALINITY MUD (Pm)		0.08		0.10	
ALKALINITY FILTRATE (Pf / Mf)		0.08	0.70	0.12	0.74
CHLORIDE (mg/L)		28,600		29,500	
TOTAL HARDNESS AS CALCIUM (mg/L)		280		220	
SULPHITE (mg/L)		80		120	
K+ (mg/L)		30,450		30,450	
KCl (% by Wt.)		5.8		5.8	
PHPA (ppb)		1.07		1.07	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Increase treatment with PAC-L to counteract increasing filtrate,
XANTHAN Gun phased out, with sufficiently high low-end rheology.

OPERATIONS SUMMARY

Drill to 2815m, DS @ 2806m - 5½°N53W,
Drill to 2902m, DS @ 2893m - 4¾°N50W,
Drill to 2935m @ 24:00 hrs

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1111
Premix (recirc from sump)	100	Desilter			
Drill Water		Downhole	30	+ FLUID RECEIVED	100
Direct Recirc Sump		Dumped	20	- FLUID LOST	118
Other (eg Diesel)		Centrifuge	68	FLUID in STORAGE	123
TOTAL RECEIVED	100	TOTAL LOST	118	FINAL VOLUME	1,094

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	24	Desander	NA	0	Shaker #1	4 x 310	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.1	2.00
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	83		11	72	$ 1,759.78
AMC PHPA	$ 118.90	51		2	49	$ 237.80
Potassium Chloride (	$ 18.95	714		42	672	$ 795.90
Soda Ash	$ 18.30	60		2	58	$ 36.60

Solids Analysis

	%	PPB
High Grav solids	0.3	3.93
Total LGS	4.9	46.3
Bentonite equiv.	1.3	11.5
Drilled Solids	3.6	33.0
Salt	1.8	17.1
n @ 22:00 Hrs	0.49	
K @ 22:00 Hrs	7.63	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	579
HHP	154
HSI	2.7
Bit Press Loss	582
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	929 psi

DAILY COST	CUMULATIVE COST
$2,830.08	$71,220.63

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	16	Date :	23-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	2935 to 3002		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1820 psi
8.50	DSX519M-A5	12	12				304	M	721	266	5 X 8.5	Inches		
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length		Mtrs	9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	67 min
							1252	M	987		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length		Mtrs		PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	96 min
								M	51		0.0516	216		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP	214
6.50	6.25			Mtrs	5% KCl-PHPA-POLYMER						10.81	454	DCs	335

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			09:30	15:00
DEPTH (ft) - (m)		Metres	3,002	3,002
FLOWLINE TEMPERATURE	^{0}C	^{0}F	62 144	59 137
WEIGHT		ppg / SG	9.40 1.128	9.40 1.128
FUNNEL VISCOSITY (sec/qt) API @		59 ^{0}C	51	49
PLASTIC VISCOSITY cP @		50 ^{0}C	13	12
YIELD POINT (lb/100ft^2)			19	19
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			5 19	4 16
RHEOLOGY q 600 / q 300			45 32	43 31
RHEOLOGY q 200 / q 100			27 20	26 19
RHEOLOGY q 6 / q 3			6 5	5 4
FILTRATE API (cc's/30 min)			8.4	8.5
HPHT FILTRATE (cc's/30 min) @		-- ^{0}F	--	--
CAKE THICKNESS API : HPHT (32nd in)			1 --	1 --
SOLIDS CONTENT (% by Volume)			5.5	5.3
LIQUID CONTENT (% by Volume) OIL/WATER			0 94.5	0 94.7
SAND CONTENT (% by Vol.)			0.10	0.10
METHYLENE BLUE CAPACITY (ppb equiv.)			15.0	15.0
pH			10.2	10.0
ALKALINITY MUD (Pm)			0.10	0.08
ALKALINITY FILTRATE (Pf / Mf)			0.14 0.78	0.12 0.72
CHLORIDE (mg/L)			29,800	29,400
TOTAL HARDNESS AS CALCIUM (mg/L)			120	100
SULPHITE (mg/L)			150	180
K+ (mg/L)			30,975	30,450
KCl (% by Wt.)			5.9	5.8
PHPA (ppb)			0.98	0.98

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Allow act. SFC volume to deplete somewhat (266 bbls @ 24:00 hrs), with view of 7"CSG to be run+cemented and excess volume expected to be returned.

OPERATIONS SUMMARY

Drill to 3002m, well @ CSG point. CO, mix+pump havy BAR pill, wiper trip to 2324m. Holecondition good. RIH to 2889m. Wash to bottom, find 4m fill. CO, mix+pump havy BAR pill, POOH f logs. Rg up SCHLUMBERGER, commence logging run.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1094
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	28	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	56
Other (eg Diesel)		Centrifuge	28	FLUID in STORAGE	51
TOTAL RECEIVED		TOTAL LOST	56	FINAL VOLUME	1,038

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	9	Desander	NA	0	Shaker #1	4 x 310	22
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	22

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.3	16.0	2.20
	0		0

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	936		72	864	$ 590.40
Caustic Soda	$ 48.90	27		2	25	$ 97.80

Solids Analysis

	%	PPB
High Grav solids	0.5	7.75
Total LGS	4.8	45.1
Bentonite equiv.	1.3	11.6
Drilled Solids	3.5	31.7
Salt	1.8	17.0
n @ 15:00 Hrs	0.47	
K @ 15:00 Hrs	8.36	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	582
HHP	155
HSI	2.7
Bit Press Loss	585
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	918 psi

DAILY COST	CUMULATIVE COST
$688.20	$71,908.83

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	17	Date :	24-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3002 to 3002		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	12	12	12	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	1750 psi
8.50	DSX519M-A5	12	12				304	M	672	284	5 X 8.5 Inches			
DRILL PIPE SIZE 4.5	TYPE 16.6 #	Length 783 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	58 min
							1252	M	956		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 4.50	TYPE HW	Length 115 Mtrs				PRODUCTION/ LINER Set @		ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	93 min
								M	45		0.0516	216		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	214 / 371 335
6.50	6.25	19	140	Mtrs	5% KCl-PHPA-POLYMER						10.81	454		

MUD PROPERTIES	Trip	Below shkrs
SAMPLE FROM		
TIME SAMPLE TAKEN		15:10
DEPTH (ft) - (m) Metres		3,002
FLOWLINE TEMPERATURE ^{0}C / ^{0}F		46 / 115
WEIGHT ppg / SG		9.40 / 1.128
FUNNEL VISCOSITY (sec/qt) API @ 46 ^{0}C		61
PLASTIC VISCOSITY cP @ 50 ^{0}C		15
YIELD POINT (lb/100ft^2)		28
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		7 / 13
RHEOLOGY q 600 / q 300		58 / 43
RHEOLOGY q 200 / q 100		37 / 28
RHEOLOGY q 6 / q 3		9 / 7
FILTRATE API (cc's/30 min)		8.8
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)	--	1 / --
SOLIDS CONTENT (% by Volume)		5.3
LIQUID CONTENT (% by Volume) OIL/WATER		0 / 94.7
SAND CONTENT (% by Vol.)		0.10
METHYLENE BLUE CAPACITY (ppb equiv.)		15.0
pH		9.8
ALKALINITY MUD (Pm)		0.06
ALKALINITY FILTRATE (Pf / Mf)		0.10 / 0.71
CHLORIDE (mg/L)		29,500
TOTAL HARDNESS AS CALCIUM (mg/L)		100
SULPHITE (mg/L)		150
K+ (mg/L)		30,450
KCl (% by Wt.)		5.8
PHPA (ppb)		0.98

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Hole took 2bbls of mud while logging. Added Biocide while circulating on bottom; no other treatment of fluid system.

OPERATIONS SUMMARY

Logs go to bottom, caliper fails while logging. Complete run without. Rig down SCHLUMBERGER, Make up BHA, using same bit, but without mud motor. Slip+cut drilling line. RIH to bottom, no fill. Circulate hole clean, mix+pump Barite pill, POOH laying down 4½"DP, using a remnant can of BAROID corrosion inhibitor. Bit at 1056m at 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1038
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	16	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	20	- FLUID LOST	36
Other (eg Diesel)		Centrifuge	0	FLUID in STORAGE	45
TOTAL RECEIVED		TOTAL LOST	36	FINAL VOLUME	1,001

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander	NA	0	Shaker #1	4 x 310	10
Degasser		0	Desilter	0	0	Shaker #2	4 x 210	10

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	0		0
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	18		1	17	$ 185.35
Baryte	$ 8.20	864		32	832	$ 262.40

Solids Analysis

	%	PPB
High Grav solids	0.5	7.75
Total LGS	4.8	45.2
Bentonite equiv.	1.3	11.6
Drilled Solids	3.5	31.8
Salt	1.8	17.1
n @ 15:10 Hrs	0.43	
K @ 15:10 Hrs	14.91	

Bit Hydraulics & Pressure Data

Jet Velocity	263
Impact force	582
HHP	155
HSI	2.7
Bit Press Loss	585
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	918 psi

DAILY COST	CUMULATIVE COST
$447.75	$72,356.58

RMN ENGINEER Peter ARONETZ CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	18	Date :	25-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3002 to 3002		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 8.50	TYPE		13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 623	PITS 218	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	950 psi
DRILL PIPE SIZE	TYPE #	Length 3 Mtrs	9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 841		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	66 min
DRILL PIPE SIZE	TYPE HW	Length Mtrs	PRODUCTION/ LINER Set @	ft / M		IN STORAGE 174		BBL/STK@ 100% 0.0516	STK / MIN 160	TOTAL CIRC. TIME (min)	127 min
DRILL COLLAR SIZE (") 7.00	7.00	Length 1430 1569 Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN 8.01	GAL / MIN 336	ANN VEL. (ft/min) DP 114 / DCs 354 354	

		MUD PROPERTIES	
SAMPLE FROM		Run CSG	Below shkrs
TIME SAMPLE TAKEN			23:45
DEPTH (ft) - (m)	Metres		3,002
FLOWLINE TEMPERATURE	^{0}C / ^{0}F		51 / 124
WEIGHT	ppg / SG		9.50 / 1.140
FUNNEL VISCOSITY (sec/qt) API @	51 ^{0}C		51
PLASTIC VISCOSITY cP @	50 ^{0}C		13
YIELD POINT (lb/100ft^2)			19
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			4 / 16
RHEOLOGY q 600 / q 300			45 / 32
RHEOLOGY q 200 / q 100			27 / 20
RHEOLOGY q 6 / q 3			6 / 5
FILTRATE API (cc's/30 min)			9.0
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)			1 / --
SOLIDS CONTENT (% by Volume)			6.0
LIQUID CONTENT (% by Volume) OIL/WATER			0 / 94.0
SAND CONTENT (% by Vol.)			TRC
METHYLENE BLUE CAPACITY (ppb equiv.)			15.0
pH			9.8
ALKALINITY MUD (Pm)			0.08
ALKALINITY FILTRATE (Pf / Mf)			0.11 / 0.75
CHLORIDE (mg/L)			29,600
TOTAL HARDNESS AS CALCIUM (mg/L)			100
SULPHITE (mg/L)			200
K+ (mg/L)			30,450
KCl (% by Wt.)			5.8
PHPA (ppb)			0.94

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	12 - 20	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Treat 150bbls mud with 18kg Sodium Sulphite and 55lt Biocide; Prepare 30bbls pre-flush, adding to bore water 6sx KCl, 20lt Biocide and 7kg Sodium sulphite.

Circulating volumes and tubular lengths reflect 7" casing being circulated in open hole, prior to cementing.

OPERATIONS SUMMARY

Lay down remainder of drill string and BHA. Rig up for casing.
Run 254 jts of 7" L80 BTC CSG, 1430m 26#, 1569m 29#.
Wash down last joint to setting depth. Circulate hole clean.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1001
Premix (recirc from sump)		Desilter			
Drill Water	30	Downhole	16	+ FLUID RECEIVED	30
Direct Recirc Sump		Dumped		- FLUID LOST	16
Other (eg Diesel)		Centrifuge	0	FLUID in STORAGE	174
TOTAL RECEIVED	30	TOTAL LOST	16	FINAL VOLUME	1,015

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander	NA	0	Shaker #1	4 x 310	24
Degasser		0	Desilter	0	0	Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	0		0
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	17		4	13	$ 741.40
Potassium Chloride (	$ 18.95	672		6	666	$ 113.70
Sodium Sulphite	$ 33.30	56		1	55	$ 33.30

Solids Analysis

	%	PPB
High Grav solids	0.5	7.41
Total LGS	5.5	52.5
Bentonite equiv.	1.2	10.8
Drilled Solids	4.4	39.7
Salt	1.8	17.1
n @ 23:45 Hrs	0.49	
K @ 23:45 Hrs	7.63	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	1000 psi
Equiv. Mud Wt.	13.70 ppg
ECD	
Max Pressure @ Shoe :	897 psi

DAILY COST	CUMULATIVE COST
$888.40	$73,244.98

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	19	Date :	26-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3002 to 3002		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE		13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 357	PITS 499	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 812 Mtrs	9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 856		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 3.50	TYPE HW	Length Mtrs	7 PRODUCTION/ LINER Set @	9839 ft / 2999 M		IN STORAGE 0		BBL/STK@ 100% 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (")	4.75	Length Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP DCs	

	MUD PROPERTIES		MUD PROPERTY SPECIFICATIONS					
SAMPLE FROM	Below shkrs	Below shkrs	Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
TIME SAMPLE TAKEN		15:15	Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
DEPTH (ft) - (m) Metres		3,002	KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120
FLOWLINE TEMPERATURE ^{0}C ^{0}F		38 100						
WEIGHT ppg / SG		9.45 1.134						
FUNNEL VISCOSITY (sec/qt) API @ 38 ^{0}C		47						
PLASTIC VISCOSITY cP @ 50 ^{0}C		11						
YIELD POINT (lb/100ft^2)		14						
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		3 18						
RHEOLOGY q 600 / q 300		36 25						
RHEOLOGY q 200 / q 100		20 14						
RHEOLOGY q 6 / q 3		3 3						
FILTRATE API (cc's/30 min)		7.5						
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--						
CAKE THICKNESS API : HPHT (32nd in)		1 --						
SOLIDS CONTENT (% by Volume)		5.6						
LIQUID CONTENT (% by Volume) OIL/WATER		0 94.4						
SAND CONTENT (% by Vol.)		TRC						
METHYLENE BLUE CAPACITY (ppb equiv.)		15.0						
pH		10.6						
ALKALINITY MUD (Pm)		0.68						
ALKALINITY FILTRATE (Pf / Mf)		0.35 1.88						
CHLORIDE (mg/L)		29,500						
TOTAL HARDNESS AS CALCIUM (mg/L)		40						
SULPHITE (mg/L)		150						
K+ (mg/L)		30,975						
KCl (% by Wt.)		5.9						
PHPA (ppb)		0.94						

OBSERVATIONS

Treat fluid at SFC w/- PAC-L, Soda Ash+Sod.Sulphite.
Install 310 mesh screen panels on shaker # 2. Circulate SFC volume through both shakers, for 6 hours to remove unwanted drill solids but not utilising centrifuge. Final MWt: 9.45ppg.
Mud-check reflects properties of fluid at SFC, after conditioning.

Mud loss listed under DUMPED, refers to fluid actually left behind casing. No downhole fluid loss observed during cementation.

OPERATIONS SUMMARY

After first seeing higher pump pressure, circulate CSG w/- 950psi. Record 4700 units of gas with bottoms up. Circulate hole clean, then pump 130bbls Biocide/Sod Sulphite treated fluid, followed by 20bbls pre-flush. Rig up HALLIBURTON, pressure test lines. Cement CSG w/- 157bbls 12.5ppg lead and 23bbls 15.8ppg tail-in. Drop plug and displace CMT w/- 7300 p/strokes, using rig-pump. Plug does not bump. WOC; install 7" slips, cut CSG and install CSG spool. Pick up 85 jts of 3½"DP; 812m DP in hole @ 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1015
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	159	- FLUID LOST	159
Other (eg Diesel)		Centrifuge	0	FLUID in STORAGE	0
TOTAL RECEIVED		TOTAL LOST	159	FINAL VOLUME	856

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander	NA	0	Shaker #1	4 x 310	16
Degasser		0	Desilter	0	0	Shaker #2	4 x 310	16

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	0		0
	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC Defoamer	$ 146.40	7		1	6	$ 146.40
AMC PAC-L	$ 159.98	72		6	66	$ 959.88
Soda Ash	$ 18.30	58		4	54	$ 73.20
Sodium Sulphite	$ 33.30	55		2	53	$ 66.60

Solids Analysis	%	PPB
High Grav solids	0.5	7.41
Total LGS	5.1	48.5
Bentonite equiv.	1.2	11.2
Drilled Solids	3.9	35.3
Salt	1.8	17.1
n @ 15:15 Hrs	0.53	
K @ 15:15 Hrs	4.81	

Bit Hydraulics & Pressure Data	
Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	N/A
Equiv. Mud Wt.	N/A
ECD	
Max Pressure @ Shoe :	N/A

DAILY COST	CUMULATIVE COST
$1,246.08	$74,491.06

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	20	Date :	27-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3002 to 3002		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	11	11	11	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	psi
6.00	DSK516M	11	11				304	M	332	400	5 X 8.5	Inches		
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 1541	Mtrs		9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	min
							1252	M	732		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 3.50	TYPE HW	Length 95	Mtrs		7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	min
							2999	M	125		0.0516			
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	
4.75	4.75	27	161	Mtrs	5% KCl-PHPA-POLYMER									

	MUD PROPERTIES	
SAMPLE FROM	RIH	Suction
TIME SAMPLE TAKEN		17:00
DEPTH (ft) - (m) Metres		3,002
FLOWLINE TEMPERATURE ^{0}C ^{0}F		#####
WEIGHT ppg / SG		9.45 1.134
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		46
PLASTIC VISCOSITY cP @ 50 ^{0}C		11
YIELD POINT (lb/100ft^2)		13
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		3 16
RHEOLOGY q 600 / q 300		35 24
RHEOLOGY q 200 / q 100		19 13
RHEOLOGY q 6 / q 3		3 3
FILTRATE API (cc's/30 min)		7.4
HPHT FILTRATE (cc's/30 min) @ -- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)	--	1 --
SOLIDS CONTENT (% by Volume)		5.6
LIQUID CONTENT (% by Volume) OIL/WATER		0 94.4
SAND CONTENT (% by Vol.)		TRC
METHYLENE BLUE CAPACITY (ppb equiv.)		15.0
pH		10.5
ALKALINITY MUD (Pm)		0.66
ALKALINITY FILTRATE (Pf / Mf)		0.33 0.17
CHLORIDE (mg/L)		29,500
TOTAL HARDNESS AS CALCIUM (mg/L)		60
SULPHITE (mg/L)		120
K+ (mg/L)		30,975
KCl (% by Wt.)		5.9
PHPA (ppb)		0.94

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

No full circulation or treatment of fluid system last 24 hours.
No mud chemicals used.

OPERATIONS SUMMARY

Cont P/U 3½"DP+RIH to 1032m, POH+rack stands in mast.
Resume BOP+ancillary equipment tests. M/U new BHA, starting w/-
6"HYCALOG DSK516M PDC bit, SN 114752, 5x11 jets, mud mtr.,
float sub, NMDC, 14x4¾"DC, Jars, 3x4¾"DC and 10x3½"HWDP
Total length of BHA: 282.2m. P/U singles 3½"DP+RIH to 1823m
at 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	856
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	0
Other (eg Diesel)		Centrifuge	0	FLUID in STORAGE	125
TOTAL RECEIVED		TOTAL LOST	0	FINAL VOLUME	857

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander	0	0	Shaker #1	4 x 310	18
Degasser		0	Desilter	0	0	Shaker #2	4 x 310	18

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	0		0
	0		0

Product	Price	Start	Received	Used	Close	Cost

Solids Analysis

	%	PPB
High Grav solids	0.5	7.41
Total LGS	5.1	48.5
Bentonite equiv.	1.2	11.2
Drilled Solids	3.9	35.3
Salt	1.8	17.1
n @ 17:00 Hrs	0.54	
K @ 17:00 Hrs	4.12	

Bit Hydraulics & Pressure Data

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

DAILY COST	CUMULATIVE COST
	$74,491.06

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	21	Date :	28-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3002 to 3103		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	14	14	14	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
6.00	DSX516M	14	14				304	M	321	449	5 X 8.5	Inches	PRESS (PSI)	2900	psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #	2821	Mtrs				1252	M	770		3 x NAT 8-P80	97 %	UP (min)	42	min
DRILL PIPE	TYPE	Length			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW	95	Mtrs				2999	M	96		0.0516	124	TIME (min)	139	min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	269	
4.75	4.75	27	161	Mtrs	5% KCl-PHPA-POLYMER						6.21	261	(ft/min) DCs	475 475	

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			12:30	22:15
DEPTH (ft) - (m)		Metres	3,005	3,082
FLOWLINE TEMPERATURE	^{0}C	^{0}F	50 121	54 129
WEIGHT		ppg / SG	9.55 1.146	9.45 1.134
FUNNEL VISCOSITY (sec/qt) API @		54 ^{0}C	60	52
PLASTIC VISCOSITY cP @		50 ^{0}C	15	12
YIELD POINT (lb/100ft^2)			18	19
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			7 24	4 16
RHEOLOGY q 600 / q 300			48 33	43 31
RHEOLOGY q 200 / q 100			28 21	26 19
RHEOLOGY q 6 / q 3			10 9	6 5
FILTRATE API (cc's/30 min)			8.9	8.7
HPHT FILTRATE (cc's/30 min) @		-- ^{0}F	--	--
CAKE THICKNESS API : HPHT (32nd in)			1 --	1 --
SOLIDS CONTENT (% by Volume)			6.8	6.0
LIQUID CONTENT (% by Volume) OIL/WATER			0 93.2	0 94.0
SAND CONTENT (% by Vol.)			TRC	TRC
METHYLENE BLUE CAPACITY (ppb equiv.)			12.5	15.0
pH			12.5	11.0
ALKALINITY MUD (Pm)			1.95	0.78
ALKALINITY FILTRATE (Pf / Mf)			1.15 2.45	0.48 1.72
CHLORIDE (mg/L)			28,700	28,000
TOTAL HARDNESS AS CALCIUM (mg/L)			60	40
SULPHITE (mg/L)			200	250
K+ (mg/L)			30,450	30,450
KCl (% by Wt.)			5.8	5.8
PHPA (ppb)			0.92	0.90

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Treat cement contamination with extra Soda Ash + Citric Acid addition. PAC-L being added to system with a view to reduce both fluid-loss and rheology.
Mud-check @ 12:30 from shortened system after drilling shoe track, prior to leak-off test. Cement contamination present.

Note revised bit type & jet sizes!

OPERATIONS SUMMARY

Cont P/U 3½"DP+RIH to 2953m, tag cement @ 2963m. Drill out top plug and cement to 2981m, employing shortened SFC system, shakers via trough to pill tank only. Circulate hole clean + conduct casing pressure test to 3500psi for 10 minues. Drill out remaining cement and shoe track and clean out rat-hole to 3002m. Make new hole to 3005m, Circulate hole clean and conduct leak-off test w/- 9.5ppg fluid in hole. Leak-off presssure 2200psi, EMW 13.8ppg. Resume drilling and drill to 3038m, DS @ 3020m - 6¾°N36W Drill to 3103m at 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	857
Premix (recirc from sump)		Desilter			
Drill Water	30	Downhole	0	+ FLUID RECEIVED	30
Direct Recirc Sump		Dumped		- FLUID LOST	21
Other (eg Diesel)		Centrifuge	21	FLUID in STORAGE	96
TOTAL RECEIVED	30	TOTAL LOST	21	FINAL VOLUME	866

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	8	Desander			Shaker #1	4 x 310	24
Degasser		0	Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.2	1.80

Product	Price	Start	Received	Used	Close	Cost
AMC Defoamer	$ 146.40	6		5	1	$ 732.00
AMC PAC-L	$ 159.98	66		12	54	$ 1,919.76
Citric Acid	$ 73.25	34		4	30	$ 293.00
Soda Ash	$ 18.30	54		12	42	$ 219.60

Solids Analysis

	%	PPB
High Grav solids		
Total LGS	6.0	57.0
Bentonite equiv.	1.1	10.2
Drilled Solids	4.9	44.5
Salt	1.7	16.2
n @ 22:15 Hrs	0.47	
K @ 22:15 Hrs	8.36	

Bit Hydraulics & Pressure Data

Jet Velocity	111
Impact force	142
HHP	16
HSI	0.6
Bit Press Loss	105
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.07 ppg
Max Pressure @ Shoe :	2226 psi

DAILY COST	CUMULATIVE COST
$3,164.36	$77,655.42

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	22	Date :	29-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3103 to 3230		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	14	14	14	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	2900 psi
6.00	DSX516M	14	14				304	M	338	442	5 x 8.5	Inches		
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2699 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	45 min
							1252	M	780		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 3.50	TYPE HW	Length 95 Mtrs			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	143 min
							2999	M	107		0.0516	124		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	269 / 475 475
4.75	4.75	27	161	Mtrs	5% KCl-PHPA-POLYMER						6.21	261		

MUD PROPERTIES

SAMPLE FROM		Below shkrs	Suction	
TIME SAMPLE TAKEN		09:40	22:15	
DEPTH (ft) - (m)	Metres	3,230	3,230	
FLOWLINE TEMPERATURE	^{0}C / ^{0}F	53 / 128	36 / 96	
WEIGHT	ppg / SG	9.75 / 1.170	9.80 / 1.176	
FUNNEL VISCOSITY (sec/qt) API @	-- ^{0}C	43	62	
PLASTIC VISCOSITY cP @	50 ^{0}C	11	21	
YIELD POINT (lb/100ft^2)		11	15	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		3 / 18	3 / 7	
RHEOLOGY q 600 / q 300		33 / 22	57 / 36	
RHEOLOGY q 200 / q 100		18 / 12	28 / 18	
RHEOLOGY q 6 / q 3		3 / 2	3 / 2	
FILTRATE API (cc's/30 min)		9.2	6.5	
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F	--	--	
CAKE THICKNESS API : HPHT (32nd in)		1 / --	1 / --	
SOLIDS CONTENT (% by Volume)		6.2	6.7	
LIQUID CONTENT (% by Volume) OIL/WATER		0 / 93.8	0 / 93.3	
SAND CONTENT (% by Vol.)		TRC	TRC	
METHYLENE BLUE CAPACITY (ppb equiv.)		15.0	15.0	
pH		10.0	10.0	
ALKALINITY MUD (Pm)		0.28	0.30	
ALKALINITY FILTRATE (Pf / Mf)		0.20 / 1.50	0.28 / 1.95	
CHLORIDE (mg/L)		65,000	62,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		60	40	
SULPHITE (mg/L)		150	300	
K+ (mg/L)		65,625	63,000	
KCl (% by Wt.)		12.5	12.0	
PHPA (ppb)		0.88	0.85	

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Use 378sx KCl to increase fluid density to 9.8ppg.
Continue treatment with PAC-L to control fluid loss, after pulling back into CSG. Mud-check @ 2200 hrs reflect mud properties of SFC volume. No circulation after 1100 hrs.

Negative usage entry for Defoamer corrects error of usage recorded on RPT 21, negative usage of Biocide is a stock correction.

OPERATIONS SUMMARY

Observe bit balling, mix 30bbl KCl pill, pump around+clear bit. Drill to 3125m, DS @ 3108m - 8½°N25W. Drill ahead, at 3156m Observe 4250 units of gas, flow-check well - static. Decision to raise density, adding KCl; final system WT 9.8ppg. Further gas-readings to max of 2600 units. Drill to 3211m, DS @ 3194m - 9¼°N15W. Drill to 3230m, Decision to POOH, CO, pull back to 2981m, above 7" CSG show, wait on directional drilling specialist+equipment.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	866
Premix (recirc from sump)		Desilter			
Drill Water	50	Downhole	0	+ FLUID RECEIVED	50
Direct Recirc Sump		Dumped		- FLUID LOST	29
Other (eg Diesel)		Centrifuge	29	FLUID in STORAGE	107
TOTAL RECEIVED	50	TOTAL LOST	29	FINAL VOLUME	887

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	11	Desander			Shaker #1	4 x 310	12
Degasser		0	Desilter			Shaker #2	4 x 310	12

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.2	16.1	1.80

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	54		15	39	$ 2,399.70
Citric Acid	$ 73.25	30		2	28	$ 146.50
Potassium Chloride (T	$ 18.95	666		414	252	$ 7,845.30
AMC Biocide G	$ 185.35	13		-1	14	$ (185.35)
AMC Defoamer	$ 146.40	1		-4	5	$ (585.60)

Solids Analysis

	%	PPB
High Grav solids		
Total LGS	6.7	63.9
Bentonite equiv.	1.0	9.4
Drilled Solids	5.7	52.0
Salt	3.9	35.9
n @ 22:15 Hrs	0.66	
K @ 22:15 Hrs	2.95	

Bit Hydraulics & Pressure Data

Jet Velocity	111
Impact force	147
HHP	17
HSI	0.6
Bit Press Loss	109
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	2047 psi

DAILY COST	CUMULATIVE COST
$9,620.55	$87,275.97

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	23	Date :	30-Sep-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3230 to 3230		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	30	30	30	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	2700 psi
6.00	SL12TKPR						304	M	334	448	5 X 8.5	Inches		
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length	2985	Mtrs	9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	45 min
							1252	M	782		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 3.50	TYPE HW	Length	86	Mtrs	7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	143 min
							2999	M	79		0.0516	120		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP 260 DCs 460 460	
4.75	4.75	27	132	Mtrs	5% KCl-PHPA-POLYMER						6.01	252		

		MUD PROPERTIES	
SAMPLE FROM		Trip	Below shkrs
TIME SAMPLE TAKEN			23:00
DEPTH (ft) - (m)	Metres		3,230
FLOWLINE TEMPERATURE	^{0}C / ^{0}F		39 / 103
WEIGHT	ppg / SG		10.00 / 1.200
FUNNEL VISCOSITY (sec/qt) API @	39 ^{0}C		44
PLASTIC VISCOSITY cP @	50 ^{0}C		12
YIELD POINT (lb/100ft^2)			12
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			3 / 14
RHEOLOGY q 600 / q 300			36 / 24
RHEOLOGY q 200 / q 100			19 / 13
RHEOLOGY q 6 / q 3			3 / 2
FILTRATE API (cc's/30 min)			6.8
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F		--
CAKE THICKNESS API : HPHT (32nd in)		--	1 / --
SOLIDS CONTENT (% by Volume)			8.1
LIQUID CONTENT (% by Volume) OIL/WATER			0 / 91.9
SAND CONTENT (% by Vol.)			0.10
METHYLENE BLUE CAPACITY (ppb equiv.)			16.3
pH			10.0
ALKALINITY MUD (Pm)			0.12
ALKALINITY FILTRATE (Pf / Mf)			0.20 / 1.65
CHLORIDE (mg/L)			85,000
TOTAL HARDNESS AS CALCIUM (mg/L)			160
SULPHITE (mg/L)			180
K+ (mg/L)			69,825
KCl (% by Wt.)			13.3
PHPA (ppb)			0.85

MUD PROPERTY SPECIFICATIONS

Mud Weight	8.9 - 9.6	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Receive orders to raise MW to 10ppg using salt, (on loc @ 1530hrs).
Weighing up, while circulating.

OPERATIONS SUMMARY

RIH from 2981m to bottom, CO-3000units gas. Mix+pump heavy Barite pill, POOH. Change BHA, make up new milled tooth Bit Nr7, (REED S12TKPR, IADC Code 127, SN NR2619, OPEN), to mudmotor, float sub, orienting sub, Monel DC, 11x4¾"DC, jars, 3x4¾"DC and 9x4½"HWDP. RIH to 2980m, breaking circulation @ 1100m + 1900m , slip+cut drilling line, RIH to 3209m, wash down and circulate bottoms up. Record 3900 units gas.
DS @ 3198m - 9¾°N10W.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	887
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	25	- FLUID LOST	25
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	79
TOTAL RECEIVED		TOTAL LOST	25	FINAL VOLUME	861

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	0	Desander			Shaker #1	4 x 310	24
Degasser		0	Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	0		0

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	39	32	0	71	$ 0.00
Baryte	$ 8.20	832		40	792	$ 328.00
Salt	$ 8.65		816	200	616	$ 1,730.00
Sodium Sulphite	$ 33.30	53		1	52	$ 33.30

Solids Analysis

	%	PPB
High Grav solids	0.2	2.52
Total LGS	7.9	75.2
Bentonite equiv.	1.0	9.5
Drilled Solids	6.9	62.8
Salt	5.4	49.2
n @ 23:00 Hrs	0.58	
K @ 23:00 Hrs	3.20	

Bit Hydraulics & Pressure Data

Jet Velocity	39
Impact force	51
HHP	2
HSI	0.1
Bit Press Loss	14
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	1944 psi

DAILY COST	CUMULATIVE COST
$2,091.30	$89,367.27

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	24	Date :	1-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3230 to 3290		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON/Trevor WADHAM	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	30	30	30	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	2600 psi
6.00	SL12TKPR						304	M	340	401	5 X 8.5	Inches		
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 3045 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	44 min
							1252	M	741		3 x NAT 8-P80	97 %		
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	132 min
							2999	M	77		0.0516	124		
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	269
4.75	4.75	27	132	Mtrs	5% KCl-PHPA-POLYMER						6.21	261	(ft/min) DCs	475 475

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			10:15	21:50
DEPTH (ft) - (m)		Metres	3,259	3,287
FLOWLINE TEMPERATURE	^{0}C	^{0}F	52 126	57 135
WEIGHT		ppg / SG	10.00 1.200	10.00 1.200
FUNNEL VISCOSITY (sec/qt) API @		57 ^{0}C	40	44
PLASTIC VISCOSITY cP @		50 ^{0}C	10	13
YIELD POINT (lb/100ft^2)			9	11
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			2 8	2 8
RHEOLOGY q 600 / q 300			29 19	37 24
RHEOLOGY q 200 / q 100			15 10	19 13
RHEOLOGY q 6 / q 3			2 2	3 2
FILTRATE API (cc's/30 min)			7.4	6.5
HPHT FILTRATE (cc's/30 min) @		-- ^{0}F	--	--
CAKE THICKNESS API : HPHT (32nd in)			1 --	1 --
SOLIDS CONTENT (% by Volume)			8.5	8.3
LIQUID CONTENT (% by Volume) OIL/WATER			0 91.5	0 91.7
SAND CONTENT (% by Vol.)			0.10	0.10
METHYLENE BLUE CAPACITY (ppb equiv.)			16.3	16.3
pH			10.2	10.2
ALKALINITY MUD (Pm)			0.53	0.28
ALKALINITY FILTRATE (Pf / Mf)			0.28 1.92	0.30 2.00
CHLORIDE (mg/L)			91,000	90,500
TOTAL HARDNESS AS CALCIUM (mg/L)			120	40
SULPHITE (mg/L)			250	250
K+ (mg/L)			63,000	67,725
KCl (% by Wt.)			12.0	12.9
PHPA (ppb)			0.97	1.10

MUD PROPERTY SPECIFICATIONS

Mud Weight	10.0	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Carry out fluid treatment w/- PAC-L, Soda Ash, Sodium Sulphite, Caustic Soda, Biocide+PHPA. Keeping rheology low, to minimise pressure drop in drill string. Maintaining 10.0ppg density w/- Salt. Use KCl for a pills to flush bit, which may have balled. Lower rheology may prevent a possible recurrence.

OPERATIONS SUMMARY

Drill to 3242m, DS @ 3227m - 9¾°N09W,
Drill to 3253m, DS @ 3236m - 11¾°N08W,
Drill to 3267m, DS @ 3256m - 14½°N02E;
Orient tool, resurvey @ 3256m-15½°N05E, Drill ahead, slide/rotate
Drill to 3287m, DS @ 3276m - 18½°N07W ,
Drill to 3290m @ 24:00 hrs.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	861
Premix (recirc from sump)		Desilter			
Drill Water	20	Downhole	0	+ FLUID RECEIVED	20
Direct Recirc Sump		Dumped		- FLUID LOST	63
Other (eg Diesel)		Centrifuge	63	FLUID in STORAGE	77
TOTAL RECEIVED	20	TOTAL LOST	63	FINAL VOLUME	818

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	22	Desander			Shaker #1	4 x 310	24
Degasser		0	Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.8	16.0	2.00

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	14		2	12	$ 370.70
AMC PAC-L	$ 159.98	71		6	65	$ 959.88
AMC PHPA	$ 118.90	49		4	45	$ 475.60
Caustic Soda	$ 48.90	25		1	24	$ 48.90
Potassium Chloride (T	$ 18.95	252		57	195	$ 1,080.15
Salt	$ 8.65	616		10	606	$ 86.50
Soda Ash	$ 18.30	42		2	40	$ 36.60
Sodium Sulphite	$ 33.30	52		4	48	$ 133.20

Solids Analysis

	%	PPB
High Grav solids	0.2	2.46
Total LGS	8.1	76.6
Bentonite equiv.	1.0	9.3
Drilled Solids	7.1	64.3
Salt	5.7	52.4
n @ 21:50 Hrs	0.62	
K @ 21:50 Hrs	2.50	

Bit Hydraulics & Pressure Data

Jet Velocity	40
Impact force	54
HHP	2
HSI	0.1
Bit Press Loss	15
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	1944 psi

DAILY COST	CUMULATIVE COST
$3,191.53	$92,558.80

RMN ENGINEER	Peter ARONETZ	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	25	Date :	2-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3290 to 2985		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE		13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 318	PITS 255	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	1900 psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2755 Mtrs	9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 573		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	44 min
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs	7 PRODUCTION/ LINER Set @	9839 ft / 2999 M		IN STORAGE 188		BBL/STK@ 100% 0.0516	STK / MIN 120	TOTAL CIRC. TIME (min)	127 min
DRILL COLLAR SIZE (")	2.88	Length 145 Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN 6.01	GAL / MIN 252	ANN VEL. (ft/min) DP 260 / DCs 223	

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS					
SAMPLE FROM		Below shkrs	Mud Weight	10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
TIME SAMPLE TAKEN		08:15	Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
DEPTH (ft) - (m)	Metres	3,306	KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120
FLOWLINE TEMPERATURE	^{0}C / ^{0}F	57 / 134						
WEIGHT	ppg / SG	10.20 / 1.224						
FUNNEL VISCOSITY (sec/qt) API @	57 ^{0}C	45						
PLASTIC VISCOSITY cP @	50 ^{0}C	13						
YIELD POINT (lb/100ft^2)		10						
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2 / 7						
RHEOLOGY q 600 / q 300		36 / 23						
RHEOLOGY q 200 / q 100		18 / 12						
RHEOLOGY q 6 / q 3		3 / 2						
FILTRATE API (cc's/30 min)		6.5						
HPHT FILTRATE (cc's/30 min) @	-- ^{0}F	--						
CAKE THICKNESS API : HPHT (32nd in)	--	1 / --						
SOLIDS CONTENT (% by Volume)		8.7						
LIQUID CONTENT (% by Volume) OIL/WATER		0 / 91.3						
SAND CONTENT (% by Vol.)		0.10						
METHYLENE BLUE CAPACITY (ppb equiv.)		15.0						
pH		10.0						
ALKALINITY MUD (Pm)		0.20						
ALKALINITY FILTRATE (Pf / Mf)		0.18 / 1.90						
CHLORIDE (mg/L)		125,000						
TOTAL HARDNESS AS CALCIUM (mg/L)		60						
SULPHITE (mg/L)		150						
K+ (mg/L)		78,750						
KCl (% by Wt.)		15.0						
PHPA (ppb)		1.10						

OBSERVATIONS

Raise MW to 10.2ppg and maintain at this level, using salt.

Prepare HiVis pill below CMT with XANTHAN GUM.

Depth indicated above and right, is estimated plug-back depth.
Max depth reached before plug-back was 3306m.

Circulation data recorded while circulating through open-ended DP after CMT job.

OPERATIONS SUMMARY

Drill to 3294m - record gas peak of 4300u, Flow-check, well static.
Gas peak circ out fm flow-check - 4100u. Raise MW to 10.2ppg
Drill to 3306m, Flow-check, well static. DS 3294m - 20½°N03W.
MW 10.2ppg in and out; Circulate out 3600u from survey. Mix &
pump Barite heavy pill, flow-check, well static, POOH to SFC. P/U
15 jts (144m) 2-7/8" pipe CMT stinger and RIH on 3½"DP to btm.
Circulate btms up, record 4000u gas. Pressure-test cementing lines,
Mix 25 and spot 15bbls X-G HiVis pill on bottom prior to cementing.
pull back to 3128m, pump 14bbls 16.5ppg CMT slurry, displace with
2.5bbls water and 59bbls d/fluid, using HALLIBURTON.
Pull back to 2985m, and circulate conventionally. Record 820u gas.
Circulate w/- 2x60 SPM and 1900psi until 24:00 hrs

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	818
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	31	- FLUID LOST	57
Other (eg Diesel)		Centrifuge	26	FLUID in STORAGE	188
TOTAL RECEIVED		TOTAL LOST	57	FINAL VOLUME	761

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	9	Desander			Shaker #1	4 x 310	12
Degasser		8	Desilter			Shaker #2	4 x 310	12

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.9	16.0	2.00

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	12		1	11	$ 185.35
Baryte	$ 8.20	792		44	748	$ 360.80
Salt	$ 8.65	606		222	384	$ 1,920.30
Sodium Sulphite	$ 33.30	48		2	46	$ 66.60
Xanthan Gum	$ 359.25	79		1	78	$ 359.25

Solids Analysis	%	PPB
High Grav solids	0.4	5.67
Total LGS	8.4	79.2
Bentonite equiv.	0.8	7.6
Drilled Solids	7.5	68.5
Salt	8.0	72.4
n @ 08:15 Hrs	0.65	
K @ 08:15 Hrs	2.09	

Bit Hydraulics & Pressure Data	
Jet Velocity	
Impact force	#VALUE!
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.56 ppg
Max Pressure @ Shoe :	1842 psi

DAILY COST	CUMULATIVE COST
$2,892.30	$95,451.10

RMN ENGINEER Peter ARONETZ CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	26	Date :	3-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	2985 to 3037		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE SL12TKPR	OPEN	13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 323	PITS 380	PUMP SIZE 5 x 8.5 Inches		CIRCULATION PRESS (PSI)	1950 psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2807 Mtrs	9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 703		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	46 min
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs	7 PRODUCTION/ LINER Set @	9839 ft / 2999 M		IN STORAGE 120		BBL/STK@ 100% 0.0516	STK / MIN 118	TOTAL CIRC. TIME (min)	139 min
DRILL COLLAR SIZE (")	2.88	Length 145 Mtrs	MUD TYPE 5% KCI-PHPA-POLYMER					BBL/MIN 5.91	GAL / MIN 248	ANN VEL. (ft/min) DP 256 / DCs 219	

	MUD PROPERTIES		
SAMPLE FROM		P/Suction	
TIME SAMPLE TAKEN		19.45	
DEPTH (ft) - (m) Metres		2,992	
FLOWLINE TEMPERATURE ^{0}C ^{0}F		52	126
WEIGHT ppg / SG		10.20	1.224
FUNNEL VISCOSITY (sec/qt) API @ 52 ^{0}C		45	
PLASTIC VISCOSITY cP @ 50 ^{0}C		15	
YIELD POINT (lb/100ft^2)		12	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		3	9
RHEOLOGY q 600 / q 300		42	27
RHEOLOGY q 200 / q 100		22	15
RHEOLOGY q 6 / q 3		3	3
FILTRATE API (cc's/30 min)		6.2	
HPHT FILTRATE (cc's/30 min) @ ^{0}F			
CAKE THICKNESS API : HPHT (32nd in)		1	--
SOLIDS CONTENT (% by Volume)		9.0	
LIQUID CONTENT (% by Volume) OIL/WATER			91.0
SAND CONTENT (% by Vol.)		0.10	
METHYLENE BLUE CAPACITY (ppb equiv.)		14.0	
pH		11.0	
ALKALINITY MUD (Pm)		0.50	
ALKALINITY FILTRATE (Pf / Mf)		0.45	1.80
CHLORIDE (mg/L)		119,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		40	
SULPHITE (mg/L)		250	
K+ (mg/L)		76,125	
KCI (% by Wt.)		14.5	
PHPA (ppb)		0.90	

MUD PROPERTY SPECIFICATIONS

Mud Weight	10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Added salt weighted premix to improve surface volume.
Mud pH fairly high, so will have to monitor this when polishing plug / kicking off. However, hardness is low so contamination from cement is not a problem.

OPERATIONS SUMMARY

Circulate bottoms up.
POH from 2985 m and lay out cement stinger.
Make up bit and bit sub and RIH. To 2992 m.
Circulate out trip gas.
WOC.
RIH to 3037 m and tag plug with 5 k weight.
POH to 2992 m.
Monitor well.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	761
Premix (recirc from sump)	100	Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	100
Direct Recirc Sump		Dumped	38	- FLUID LOST	38
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	120
TOTAL RECEIVED	100	TOTAL LOST	38	FINAL VOLUME	823

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	2
Degasser			Desilter			Shaker #2	4 x 310	2

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	65		6	59	$ 959.88
AMC PHPA	$ 118.90	45		2	43	$ 237.80
Baryte	$ 8.20	748		40	708	$ 328.00
Salt	$ 8.65	384		192	192	$ 1,660.80
Soda Ash	$ 18.30	40		4	36	$ 73.20
Xanthan Gum	$ 359.25	78		1	77	$ 359.25

Solids Analysis

	%	PPB
High Grav solids	0.3	4.67
Total LGS	8.7	82.1
Bentonite equiv.	0.7	6.1
Drilled Solids	8.0	72.8
Salt	7.6	68.9
n @ 19.45 Hrs	0.64	
K @ 19.45 Hrs	2.60	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.80 ppg
Max Pressure @ Shoe :	1842 psi

DAILY COST	CUMULATIVE COST
$3,618.93	$99,070.03

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	27	Date :	4-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3037 to 3041		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	OPEN			13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
6.00	SL12TKPR						304	M	324	378	5 X 8.5	Inches	PRESS (PSI)	1500	psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #		2795	Mtrs			1252	M	702		3 x NAT 8-P80	97 %	UP (min)	55	min
DRILL PIPE	TYPE	Length			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW		86	Mtrs			2999	M	120		0.0516	98	TIME (min)	168	min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	213	
	2.88		161	Mtrs	5% KCl-PHPA-POLYMER						4.91	206	(ft/min) DCs	182	

		MUD PROPERTIES	
SAMPLE FROM		P/Suction	P/Suction
TIME SAMPLE TAKEN			09.30
DEPTH (ft) - (m)	Metres		3,037
FLOWLINE TEMPERATURE	^{0}C / ^{0}F		49 / 120
WEIGHT	ppg / SG		10.20 / 1.224
FUNNEL VISCOSITY (sec/qt) API @	49 ^{0}C		50
PLASTIC VISCOSITY cP @	50 ^{0}C		16
YIELD POINT (lb/100ft^2)			11
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			3 / 10
RHEOLOGY q 600 / q 300			43 / 27
RHEOLOGY q 200 / q 100			21 / 15
RHEOLOGY q 6 / q 3			3 / 2
FILTRATE API (cc's/30 min)			6.4
HPHT FILTRATE (cc's/30 min) @	^{0}F		
CAKE THICKNESS API : HPHT (32nd in)			1 / --
SOLIDS CONTENT (% by Volume)			8.7
LIQUID CONTENT (% by Volume) OIL/WATER			91.3
SAND CONTENT (% by Vol.)			0.10
METHYLENE BLUE CAPACITY (ppb equiv.)			14.0
pH			11.0
ALKALINITY MUD (Pm)			0.56
ALKALINITY FILTRATE (Pf / Mf)			0.42 / 1.86
CHLORIDE (mg/L)			118,000
TOTAL HARDNESS AS CALCIUM (mg/L)			60
SULPHITE (mg/L)			200
K+ (mg/L)			76,125
KCl (% by Wt.)			14.5
PHPA (ppb)			0.90

MUD PROPERTY SPECIFICATIONS

Mud Weight	10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Further truck load of salt (for mud weight purposes) has been ordered.

OPERATIONS SUMMARY

Wait on MWD tool.
Circulate through trip tank.
Wash 2992 m - 3037 m.
Tag cement.
Polish plug to 3041 m.
Circulate bottoms up - no gas.
Pump heavy weght slug and POH.
Make up bit, mwd and BHA and RIH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	823
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	1
Other (eg Diesel)		Centrifuge	1	FLUID in STORAGE	120
TOTAL RECEIVED		TOTAL LOST	1	FINAL VOLUME	822

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	1	Desander			Shaker #1	4 x 310	2
Degasser			Desilter			Shaker #2	4 x 310	2

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	9.9	15.5	1.00

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	708		31	677	$ 254.20

Solids Analysis	%	PPB
High Grav solids	0.6	9.42
Total LGS	8.1	76.6
Bentonite equiv.	0.7	6.7
Drilled Solids	7.4	66.9
Salt	7.5	68.3
n @ 09.30 Hrs	0.67	
K @ 09.30 Hrs	2.10	

Bit Hydraulics & Pressure Data	
Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.72 ppg
Max Pressure @ Shoe :	1842 psi

DAILY COST	CUMULATIVE COST
$254.20	$99,324.23

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	28	Date :	5-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3041 to 3041		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE	OPEN			13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE			CIRCULATION		
6.00	SL12TKPR					SET @	304	M	324	388	5 X 8.5	Inches		PRESS (PSI)	2000	psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF		BOTTOMS		
SIZE 3.5	15.5 #	2795	Mtrs			SET @	1252	M	712		3 x NAT 8-P80	97	%	UP (min)	57	min
DRILL PIPE	TYPE	Length			7	PRODUCTION/	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN		TOTAL CIRC.		
SIZE 3.50	HW	86	Mtrs			LINER Set @	2999	M	110		0.0516	95		TIME (min)	173	min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN		ANN VEL. DP	206	
	2.88	161	Mtrs		5% KCl-PHPA-POLYMER						4.76	200		(ft/min) DCs	176	

MUD PROPERTIES

SAMPLE FROM		P/Suction		Below shkrs	
TIME SAMPLE TAKEN		06.30		23.30	
DEPTH (ft) - (m)	Metres	3,041		3,041	
FLOWLINE TEMPERATURE	^{0}C / ^{0}F	46	115	45	113
WEIGHT	ppg / SG	10.15	1.218	10.20	1.224
FUNNEL VISCOSITY (sec/qt) API @	45 ^{0}C	45		45	
PLASTIC VISCOSITY cP @	50 ^{0}C	12		13	
YIELD POINT (lb/100ft^2)		9		9	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2	11	2	11
RHEOLOGY q 600 / q 300		33	21	35	22
RHEOLOGY q 200 / q 100		16	10	17	11
RHEOLOGY q 6 / q 3		2	2	2	2
FILTRATE API (cc's/30 min)		6.8		6.8	
HPHT FILTRATE (cc's/30 min) @	^{0}F				
CAKE THICKNESS API : HPHT (32nd in)		1	--	1	--
SOLIDS CONTENT (% by Volume)		8.4		8.7	
LIQUID CONTENT (% by Volume) OIL/WATER			91.6		91.3
SAND CONTENT (% by Vol.)		0.10		0.10	
METHYLENE BLUE CAPACITY (ppb equiv.)		14.0		14.0	
pH		11.0		11.0	
ALKALINITY MUD (Pm)		0.55		0.60	
ALKALINITY FILTRATE (Pf / Mf)		0.40	1.80	0.52	1.85
CHLORIDE (mg/L)		118,000		114,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		60		20	
SULPHITE (mg/L)		180		180	
K+ (mg/L)		76,125		76,125	
KCl (% by Wt.)		14.5		14.5	
PHPA (ppb)		0.90		0.90	

MUD PROPERTY SPECIFICATIONS

Mud Weight	10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

With no drilling, and therefore no new cuttings, mud is slowly cooling.
Properties are fairly stable as a result, although fluid loss is showing slight upward trend.
Consequently, some premix was bled over.

OPERATIONS SUMMARY

RIH to 3041 m.
Circulate and attempt to get signal from mwd tool. No go.
Pump slug and POH.
Reset mwd.
RIH to 3041 m.
Circulate and attempt to retrieve signal.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	822
Premix (recirc from sump)		Desilter			
Drill Water		Downhole		+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	110
TOTAL RECEIVED		TOTAL LOST		FINAL VOLUME	822

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	10
Degasser			Desilter			Shaker #2	4 x 310	10

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	677		30	647	$ 246.00

Solids Analysis

	%	PPB
High Grav solids	0.8	11.42
Total LGS	7.9	74.9
Bentonite equiv.	0.8	6.9
Drilled Solids	7.1	65.0
Salt	7.3	66.0
n @ 23.30 Hrs	0.67	
K @ 23.30 Hrs	1.73	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.58 ppg
Max Pressure @ Shoe :	1842 psi

DAILY COST	CUMULATIVE COST
$246.00	$99,570.23

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	29	Date :	6-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3041 to 3041		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE SL12TKPR	OPEN	13 3/8 SURFACE	997 ft		HOLE 324	PITS 388	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	2000 psi
			SET @	304 M							
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2795 Mtrs	9 5/8 INTERMEDIATE	4107 ft		TOTAL CIRCULATING VOL. 712		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	57 min
			SET @	1252 M							
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs	7 PRODUCTION/	9839 ft		IN STORAGE 110		BBL/STK@ 100% 0.0516	STK / MIN 95	TOTAL CIRC. TIME (min)	173 min
			LINER Set @	2999 M							
DRILL COLLAR SIZE (") 2.88		Length 161 Mtrs	MUD TYPE 5% KCI-PHPA-POLYMER					BBL/MIN 4.76	GAL / MIN 200	ANN VEL. (ft/min) DP 206 DCs 176	

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS					
SAMPLE FROM		P/Suction	Mud Weight	10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
TIME SAMPLE TAKEN		20.00	Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
DEPTH (ft) - (m)	Metres	3,041	KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120
FLOWLINE TEMPERATURE	^{0}C / ^{0}F	104 / 40						
WEIGHT	ppg / SG	10.20 / 1.224						
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	45						
PLASTIC VISCOSITY cP @	50 ^{0}C	13						
YIELD POINT (lb/100ft^2)		10						
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2 / 10						
RHEOLOGY q 600 / q 300		36 / 23						
RHEOLOGY q 200 / q 100		18 / 11						
RHEOLOGY q 6 / q 3		3 / 2						
FILTRATE API (cc's/30 min)		7.0						
HPHT FILTRATE (cc's/30 min) @	^{0}F							
CAKE THICKNESS API : HPHT (32nd in)		1 / --						
SOLIDS CONTENT (% by Volume)		8.7						
LIQUID CONTENT (% by Volume) OIL/WATER		/ 91.3						
SAND CONTENT (% by Vol.)		0.10						
METHYLENE BLUE CAPACITY (ppb equiv.)		14.0						
pH		11.0						
ALKALINITY MUD (Pm)		0.56						
ALKALINITY FILTRATE (Pf / Mf)		0.50 / 1.80						
CHLORIDE (mg/L)		113,000						
TOTAL HARDNESS AS CALCIUM (mg/L)		20						
SULPHITE (mg/L)		150						
K+ (mg/L)		76,125						
KCl (% by Wt.)		14.5						
PHPA (ppb)		0.90						

OBSERVATIONS

OPERATIONS SUMMARY

Circulate at 3040 m and attempt to retrieve signal from MWD. No Go.
Pump slug and POH to 1132 m. Strong signal from MWD found.
RIH to 2052 m. Lost signal. Attempt to find signal. No Go.
POH.
Lay out MWD tool.
Make up bit and bit sub and RIH to 256 m. Slip and cut line.
Wait on directional tools and circulate at low pump rate (35 spm.)

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	822
Premix (recirc from sump)		Desilter			
Drill Water		Downhole		+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	110
TOTAL RECEIVED		TOTAL LOST		FINAL VOLUME	822

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	12
Degasser			Desilter			Shaker #2	4 x 310	12

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	647		40	607	$ 328.00

Solids Analysis	%	PPB
High Grav solids	0.8	11.42
Total LGS	7.9	75.0
Bentonite equiv.	0.8	6.9
Drilled Solids	7.2	65.2
Salt	7.2	65.4
n @ 20.00 Hrs	0.65	
K @ 20.00 Hrs	2.09	

Bit Hydraulics & Pressure Data	
Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.59 ppg
Max Pressure @ Shoe :	1842 psi

DAILY COST	CUMULATIVE COST
$328.00	$99,898.23

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	30	Date :	7-Aug-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3041 to 3041		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	20	20	20	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	
6.00	Sec SDB036						304	M	324	378	5 X 8.5	Inches		psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2794 Mtrs			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)	
							1252	M	702		3 x NAT 8-P80	97 %		min
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC. TIME (min)	
							2999	M	110		0.0516			min
DRILL COLLAR SIZE (")	2.88	Length 161 Mtrs			MUD TYPE 5% KCl-PHPA-POLYMER						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	

	MUD PROPERTIES P/Suction	P/Suction
SAMPLE FROM		
TIME SAMPLE TAKEN		15.30
DEPTH (ft) - (m) Metres		3,041
FLOWLINE TEMPERATURE ^{0}C ^{0}F		
WEIGHT ppg / SG		10.20 1.224
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		47
PLASTIC VISCOSITY cP @ 50 ^{0}C		13
YIELD POINT (lb/100ft^2)		9
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2 8
RHEOLOGY q 600 / q 300		35 22
RHEOLOGY q 200 / q 100		16 10
RHEOLOGY q 6 / q 3		2 1
FILTRATE API (cc's/30 min)		7.2
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		1 --
SOLIDS CONTENT (% by Volume)		8.5
LIQUID CONTENT (% by Volume) OIL/WATER		91.5
SAND CONTENT (% by Vol.)		0.10
METHYLENE BLUE CAPACITY (ppb equiv.)		14.0
pH		11.0
ALKALINITY MUD (Pm)		0.50
ALKALINITY FILTRATE (Pf / Mf)		0.48 1.80
CHLORIDE (mg/L)		113,000
TOTAL HARDNESS AS CALCIUM (mg/L)		20
SULPHITE (mg/L)		120
K+ (mg/L)		76,125
KCl (% by Wt.)		14.5
PHPA (ppb)		0.90

MUD PROPERTY SPECIFICATIONS

Mud Weight	10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

No product used - heavy weight pill pumped used remnants of previous slug.

OPERATIONS SUMMARY

Pump slug and POH.
Wait on MWD tools.
Make up bit and mud motor and MWD BHA.
RIH.
Test MWD.
Break circulation regularly while RIH.
Tag cement.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	822
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	10	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	10
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	110
TOTAL RECEIVED		TOTAL LOST	10	FINAL VOLUME	812

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	
Degasser			Desilter			Shaker #2	4 x 310	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost

Solids Analysis

	%	PPB
High Grav solids	1.0	14.10
Total LGS	7.6	71.9
Bentonite equiv.	0.8	7.3
Drilled Solids	6.8	61.8
Salt	7.2	65.4
n @ 15.30 Hrs	0.67	
K @ 15.30 Hrs	1.73	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	1842 psi

DAILY COST	CUMULATIVE COST
	$99,898.23

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	31	Date :	8-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3041 to 3072		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	20	20	20	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
6.00	Sec SDB036						304	M	327	429	5 X 8.5	Inches	PRESS (PSI)	2850 psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	2825 Mtrs					1252	M	756		3 x NAT 8-P80	97 %	UP (min)	44 min
DRILL PIPE	TYPE	Length			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 3.50	HW	86 Mtrs					2999	M	110		0.0516	123	TIME (min)	141 min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	267
	2.88	161 Mtrs			5% KCl-PHPA-POLYMER						6.16	259	(ft/min) DCs	228

MUD PROPERTIES				
SAMPLE FROM			P/Suction	P/Suction
TIME SAMPLE TAKEN			13.45	23.40
DEPTH (ft) - (m)		Metres	3,051	3,072
FLOWLINE TEMPERATURE	^{0}C	^{0}F	49 120	52 126
WEIGHT		ppg / SG	10.15 1.218	10.05 1.206
FUNNEL VISCOSITY (sec/qt) API @		52 ^{0}C	39	38
PLASTIC VISCOSITY cP @		50 ^{0}C	12	11
YIELD POINT (lb/100ft^2)			7	6
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			1 2	1 1
RHEOLOGY q 600 / q 300			31 19	28 17
RHEOLOGY q 200 / q 100			15 9	13 8
RHEOLOGY q 6 / q 3			2 1	1 1
FILTRATE API (cc's/30 min)			7.4	7.0
HPHT FILTRATE (cc's/30 min) @		^{0}F		
CAKE THICKNESS API : HPHT (32nd in)			1 --	1 --
SOLIDS CONTENT (% by Volume)			8.2	7.6
LIQUID CONTENT (% by Volume) OIL/WATER			91.8	92.4
SAND CONTENT (% by Vol.)			0.10	TRC
METHYLENE BLUE CAPACITY (ppb equiv.)			14.0	13.0
pH			11.0	11.0
ALKALINITY MUD (Pm)			0.55	0.45
ALKALINITY FILTRATE (Pf / Mf)			0.50 1.75	0.35 1.40
CHLORIDE (mg/L)			113,500	110,500
TOTAL HARDNESS AS CALCIUM (mg/L)			Tr	Tr
SULPHITE (mg/L)			100	100
K+ (mg/L)			76,125	73,500
KCl (% by Wt.)			14.5	14.0
PHPA (ppb)			0.85	0.87

MUD PROPERTY SPECIFICATIONS

Mud Weight	< 10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

One premix built to both aid in lowering fluid loss back towards 6 cc's and to improve volume in mud tanks.
Mud Rheology has been allowed to "thin" out so as to minimise friction losses in drill pipe.
Mud weight is being allowed to drop naturally - i.e. Premixes are not presently being weighted up with salt.

OPERATIONS SUMMARY

Slide / drill with directional assembly.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	812
Premix (recirc from sump)	90	Desilter			
Drill Water		Downhole	8	+ FLUID RECEIVED	90
Direct Recirc Sump		Dumped	10	- FLUID LOST	36
Other (eg Diesel)		Centrifuge	18	FLUID in STORAGE	110
TOTAL RECEIVED	90	TOTAL LOST	36	FINAL VOLUME	866

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	16	Desander			Shaker #1	4 x 310	24
Degasser			Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.1	19.2	0.80

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	11		1	10	$ 185.35
AMC PAC-L	$ 159.98	59		6	53	$ 959.88
AMC PHPA	$ 118.90	43		1	42	$ 118.90
Sodium Sulphite	$ 33.30	46		1	45	$ 33.30
Xanthan Gum	$ 359.25	77		1	76	$ 359.25

Solids Analysis

	%	PPB
High Grav solids	0.9	12.65
Total LGS	6.8	64.2
Bentonite equiv.	0.8	7.1
Drilled Solids	6.0	54.6
Salt	7.0	64.0
n @ 23.40 Hrs	0.72	
K @ 23.40 Hrs	0.98	

Bit Hydraulics & Pressure Data

Jet Velocity	90
Impact force	121
HHP	11
HSI	0.4
Bit Press Loss	73
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.69 ppg
Max Pressure @ Shoe :	1919 psi

DAILY COST	CUMULATIVE COST
$1,656.68	$101,554.91

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	32	Date :	9-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3072 to 3119		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	20	20	20	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
6.00	Sec SDB036						304	M	331	443	5 X 8.5	Inches	PRESS (PSI)	2900 psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	2872 Mtrs					1252	M	774		3 x NAT 8-P80	97 %	UP (min)	45 min
DRILL PIPE	TYPE	Length			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 3.50	HW	86 Mtrs					2999	M	71		0.0516	124	TIME (min)	136 min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	269
	2.88	161 Mtrs			5% KCl-PHPA-POLYMER						6.21	261	(ft/min) DCs	230

MUD PROPERTIES				
SAMPLE FROM			Below shkrs	Below shkrs
TIME SAMPLE TAKEN			12.00	21.30
DEPTH (ft) - (m)		Metres	3,092	3,119
FLOWLINE TEMPERATURE	^{0}C	^{0}F	52 126	53 127
WEIGHT		ppg / SG	10.05 1.206	10.05 1.206
FUNNEL VISCOSITY (sec/qt) API @	53 ^{0}C		37	38
PLASTIC VISCOSITY cP @	50 ^{0}C		11	11
YIELD POINT (lb/100ft^2)			6	7
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			1 1	1 2
RHEOLOGY q 600 / q 300			28 17	29 18
RHEOLOGY q 200 / q 100			12 7	13 7
RHEOLOGY q 6 / q 3			1 1	1 1
FILTRATE API (cc's/30 min)			7.1	7.0
HPHT FILTRATE (cc's/30 min) @		^{0}F		
CAKE THICKNESS API : HPHT (32nd in)			1 --	1 --
SOLIDS CONTENT (% by Volume)			7.7	7.7
LIQUID CONTENT (% by Volume) OIL/WATER			92.3	92.3
SAND CONTENT (% by Vol.)			TRC	TRC
METHYLENE BLUE CAPACITY (ppb equiv.)			13.0	13.0
pH			10.8	10.5
ALKALINITY MUD (Pm)			0.40	0.40
ALKALINITY FILTRATE (Pf / Mf)			0.28 1.30	0.26 1.24
CHLORIDE (mg/L)			107,500	107,000
TOTAL HARDNESS AS CALCIUM (mg/L)			Tr	Tr
SULPHITE (mg/L)			100	120
K+ (mg/L)			73,500	73,500
KCl (% by Wt.)			14.0	14.0
PHPA (ppb)			0.87	0.87

MUD PROPERTY SPECIFICATIONS

Mud Weight	< 10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Mud weight slowly coming down as premix is added.
With the slow ROP, few solids are enteriing the mud and properties are remaining quite stable.

OPERATIONS SUMMARY

Slide / drill with directional assembly to 3119 m.
Circulate bottoms up and trip bit.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	866
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	6	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	20
Other (eg Diesel)		Centrifuge	14	FLUID in STORAGE	71
TOTAL RECEIVED		TOTAL LOST	20	FINAL VOLUME	845

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	22.5	Desander			Shaker #1	4 x 310	22
Degasser			Desilter			Shaker #2	4 x 310	22

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.1	15.6	0.45

Product	Price	Start	Received	Used	Close	Cost
AUS-BEN	$ 11.25	168		1	167	$ 11.25
Baryte	$ 8.20	607		47	560	$ 385.40
Sodium Sulphite	$ 33.30	45		3	42	$ 99.90

Solids Analysis

	%	PPB
High Grav solids	0.9	12.65
Total LGS	6.8	64.6
Bentonite equiv.	0.8	7.0
Drilled Solids	6.1	55.1
Salt	6.8	62.0
n @ 21.30 Hrs	0.69	
K @ 21.30 Hrs	1.26	

Bit Hydraulics & Pressure Data

Jet Velocity	91
Impact force	123
HHP	11
HSI	0.4
Bit Press Loss	74
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.95 ppg
Max Pressure @ Shoe :	1919 psi

DAILY COST	CUMULATIVE COST
$496.55	$102,051.46

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	33	Date :	10-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3119 to 3119		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE Smith XR+	24	24	24	13 3/8	SURFACE SET @	997 304	ft M	HOLE 331	PITS 443	PUMP SIZE 5 X 8.5	Inches	CIRCULATION PRESS (PSI)	psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2872	Mtrs		9 5/8	INTERMEDIATE SET @	4107 1252	ft M	TOTAL CIRCULATING VOL. 774		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 3.50	TYPE HW	Length 86	Mtrs		7	PRODUCTION/ LINER Set @	9839 2999	ft M	IN STORAGE 71		BBL/STK@ 100% 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (") 2.88		Length 161	Mtrs		MUD TYPE 5% KCl-PHPA-POLYMER						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP DCs	

		MUD PROPERTIES	
SAMPLE FROM		P/Suction	
TIME SAMPLE TAKEN		22.00	
DEPTH (ft) - (m)	Metres	3,119	
FLOWLINE TEMPERATURE	^{0}C / ^{0}F		
WEIGHT	ppg / SG	10.05	1.206
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	39	
PLASTIC VISCOSITY cP @	50 ^{0}C	11	
YIELD POINT (lb/100ft^2)		6	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1	1
RHEOLOGY q 600 / q 300		28	17
RHEOLOGY q 200 / q 100		12	6
RHEOLOGY q 6 / q 3		1	1
FILTRATE API (cc's/30 min)		6.8	
HPHT FILTRATE (cc's/30 min) @	^{0}F		
CAKE THICKNESS API : HPHT (32nd in)	--	1	--
SOLIDS CONTENT (% by Volume)		7.7	
LIQUID CONTENT (% by Volume) OIL/WATER			92.3
SAND CONTENT (% by Vol.)		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		13.0	
pH		10.5	
ALKALINITY MUD (Pm)		0.42	
ALKALINITY FILTRATE (Pf / Mf)		0.25	1.15
CHLORIDE (mg/L)		107,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		Tr	
SULPHITE (mg/L)		120	
K+ (mg/L)		73,500	
KCl (% by Wt.)		14.0	
PHPA (ppb)		0.87	

MUD PROPERTY SPECIFICATIONS

Mud Weight	< 10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Note - mud volume analysis assumes pipe in hole.

OPERATIONS SUMMARY

POH.
Change bit and RIH - 264 m.
Bent Monkey Board flap with Top Drive.
Wait on clearance from Inspectors.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	845
Premix (recirc from sump)		Desilter			
Drill Water		Downhole		+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	71
TOTAL RECEIVED		TOTAL LOST		FINAL VOLUME	845

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	
Degasser			Desilter			Shaker #2	4 x 310	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost

Solids Analysis

	%	PPB
High Grav solids	0.9	12.65
Total LGS	6.8	64.6
Bentonite equiv.	0.8	7.0
Drilled Solids	6.1	55.1
Salt	6.8	62.0
n @ 22.00 Hrs	0.72	
K @ 22.00 Hrs	0.98	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	1919 psi

DAILY COST	CUMULATIVE COST
	$102,051.46

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	34	Date :	11-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3119 to 3119		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Barry BEETSON	REPORT FOR	David SHEERAN
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE Smith XR+	24	24	24	13 3/8	SURFACE SET @	997 ft / 304 M		HOLE 331	PITS 440	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2872 Mtrs			9 5/8	INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 771		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs			7	PRODUCTION/ LINER Set @	9839 ft / 2999 M		IN STORAGE 71		BBL/STK@ 100% 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (")	2.88	Length 161 Mtrs			MUD TYPE 5% KCl-PHPA-POLYMER						BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	

	MUD PROPERTIES P/Suction	P/Suction
SAMPLE FROM		
TIME SAMPLE TAKEN		21.30
DEPTH (ft) - (m) Metres		3,119
FLOWLINE TEMPERATURE ^{0}C ^{0}F		
WEIGHT ppg / SG		10.05 1.206
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		39
PLASTIC VISCOSITY cP @ 50 ^{0}C		10
YIELD POINT (lb/100ft^2)		8
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1 1
RHEOLOGY q 600 / q 300		28 18
RHEOLOGY q 200 / q 100		13 7
RHEOLOGY q 6 / q 3		1 1
FILTRATE API (cc's/30 min)		7.3
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)	--	1 --
SOLIDS CONTENT (% by Volume)		7.7
LIQUID CONTENT (% by Volume) OIL/WATER		92.3
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		13.0
pH		10.5
ALKALINITY MUD (Pm)		0.42
ALKALINITY FILTRATE (Pf / Mf)		0.25 1.12
CHLORIDE (mg/L)		107,000
TOTAL HARDNESS AS CALCIUM (mg/L)		Tr
SULPHITE (mg/L)		100
K+ (mg/L)		73,500
KCl (% by Wt.)		14.0
PHPA (ppb)		0.87

MUD PROPERTY SPECIFICATIONS

Mud Weight	< 10.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Note - mud volume analysis assumes pipe in hole.

OPERATIONS SUMMARY

Pull wear bushing.
RIH to 263 m.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	845
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	3	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	3
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	71
TOTAL RECEIVED		TOTAL LOST	3	FINAL VOLUME	842

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	
Degasser			Desilter			Shaker #2	4 x 310	

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost

Solids Analysis

	%	PPB
High Grav solids	0.9	12.65
Total LGS	6.8	64.6
Bentonite equiv.	0.8	7.0
Drilled Solids	6.1	55.1
Salt	6.8	62.0
n @ 21.30 Hrs	0.64	
K @ 21.30 Hrs	1.73	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	1919 psi

DAILY COST	CUMULATIVE COST
	$102,051.46

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	35	Date :	12-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3119 to 3119		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	24	24	24	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
6.00	Smith XR+						304	M	324	438	5 X 8.5	Inches	PRESS (PSI)	80 psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	2872 Mtrs					1252	M	762		3 x NAT 8-P80	97 %	UP (min)	131 min
DRILL PIPE	TYPE	Length			7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100%	STK / MIN	TOTAL CIRC.	
SIZE 3.50	HW	86 Mtrs					2999	M	71		0.0516	40	TIME (min)	416 min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	87
	4.75	161 Mtrs			5% KCl-PHPA-POLYMER						2.00	84	(ft/min) DCs	153

	MUD PROPERTIES	
SAMPLE FROM	P/Suction	P/Suction
TIME SAMPLE TAKEN		22.30
DEPTH (ft) - (m) Metres		3,119
FLOWLINE TEMPERATURE ^{0}C ^{0}F		
WEIGHT ppg / SG		10.05 1.206
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		39
PLASTIC VISCOSITY cP @ 50 ^{0}C		11
YIELD POINT (lb/100ft^2)		6
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1 1
RHEOLOGY q 600 / q 300		28 17
RHEOLOGY q 200 / q 100		12 6
RHEOLOGY q 6 / q 3		1 1
FILTRATE API (cc's/30 min)		7.5
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		1 --
SOLIDS CONTENT (% by Volume)		7.7
LIQUID CONTENT (% by Volume) OIL/WATER		92.3
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		13.0
pH		10.5
ALKALINITY MUD (Pm)		0.40
ALKALINITY FILTRATE (Pf / Mf)		0.24 1.10
CHLORIDE (mg/L)		107,000
TOTAL HARDNESS AS CALCIUM (mg/L)		Tr
SULPHITE (mg/L)		80
K+ (mg/L)		73,500
KCl (% by Wt.)		14.0
PHPA (ppb)		0.87

MUD PROPERTY SPECIFICATIONS

Mud Weight	>= 10.0	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Note - mud volume analysis assumes pipe in hole.

OPERATIONS SUMMARY

Wait on goose neck.
Monitor well with pill tank and circulate through 2" line.
POH. Pick up mud motor and RIH.
Test MWD tool at 57 m. Faulty.
Install goose neck and fix MWD. Pressure test goose neck.
RIH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	835
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	2	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	2
Other (eg Diesel)		Centrifuge		FLUID in STORAGE	71
TOTAL RECEIVED		TOTAL LOST	2	FINAL VOLUME	833

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000		Desander			Shaker #1	4 x 310	10
Degasser			Desilter			Shaker #2	4 x 310	10

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge		0	

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	560		30	530	$ 246.00

Solids Analysis

	%	PPB
High Grav solids	0.9	12.73
Total LGS	6.8	64.5
Bentonite equiv.	0.8	7.0
Drilled Solids	6.0	55.0
Salt	6.8	62.0
n @ 22.30 Hrs	0.72	
K @ 22.30 Hrs	0.98	

Bit Hydraulics & Pressure Data

Jet Velocity	20
Impact force	9
HHP	0
HSI	0.0
Bit Press Loss	4
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	10.16 ppg
Max Pressure @ Shoe :	1919 psi

DAILY COST	CUMULATIVE COST
$246.00	$102,297.46

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	36	Date :	13-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3119 to 3169		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT - Scott HEALEY	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE 6.00	TYPE Smith XR+	24	24	24	13 3/8	SURFACE SET @	997	ft	HOLE	PITS	PUMP SIZE 5 X 8.5	Inches		CIRCULATION PRESS (PSI)	3050	psi
							304	M	329	402						
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 3253	Mtrs		9 5/8	INTERMEDIATE SET @	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL 3 x NAT 8-P80		ASSUMED EFF 97 %	BOTTOMS UP (min)	50	min
							1252	M	731							
DRILL PIPE SIZE 3.50	TYPE HW	Length 86	Mtrs		7	PRODUCTION/ LINER Set @	9839	ft	IN STORAGE		BBL/STK@ 100% 0.0516		STK / MIN 118	TOTAL CIRC. TIME (min)	154	min
							2999	M	183							
DRILL COLLAR SIZE (")	4.75	Length 161	Mtrs		MUD TYPE 5% KCl-PHPA-POLYMER						BBL/MIN 5.91		GAL / MIN 248	ANN VEL. (ft/min)	DP 256 / DCs 452	

		MUD PROPERTIES			
SAMPLE FROM		Below shkrs		Below shkrs	
TIME SAMPLE TAKEN		14.15		23.00	
DEPTH (ft) - (m)	Metres	3,150		3,165	
FLOWLINE TEMPERATURE	^{0}C / ^{0}F	51	124	52	126
WEIGHT	ppg / SG	10.30	1.236	10.30	1.236
FUNNEL VISCOSITY (sec/qt) API @	52 ^{0}C	36		36	
PLASTIC VISCOSITY cP @	55 ^{0}C	10		9	
YIELD POINT (lb/100ft^2)		5		6	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1	3	1	3
RHEOLOGY q 600 / q 300		25	15	24	15
RHEOLOGY q 200 / q 100		11.5	7	11.5	7
RHEOLOGY q 6 / q 3		1	1	1	1
FILTRATE API (cc's/30 min)		6.5		6.6	
HPHT FILTRATE (cc's/30 min) @	^{0}F				
CAKE THICKNESS API : HPHT (32nd in)		1	--	1	--
SOLIDS CONTENT (% by Volume)		8.0		7.9	
LIQUID CONTENT (% by Volume) OIL/WATER			92.0		92.1
SAND CONTENT (% by Vol.)		Tr		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		12.5		12.0	
pH		10.0		10.0	
ALKALINITY MUD (Pm)		0.30		0.28	
ALKALINITY FILTRATE (Pf / Mf)		0.22	0.98	0.24	0.94
CHLORIDE (mg/L)		129,500		131,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		40		40	
SULPHITE (mg/L)		120		100	
K+ (mg/L)		65,625		60,375	
KCl (% by Wt.)		12.5		11.5	
PHPA (ppb)		0.82		0.84	

MUD PROPERTY SPECIFICATIONS

Mud Weight	>=10.3	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Salt added directly to mud system to increase mud weight over one circulation after well was seen to be flowing slightly.
Salt added to premix to pre-weight it to 10.3 ppg.
Premix being added to slowly build tank volume and to maintain properties.
Maintaining yield point at relatively low levels so as to minimise drill string pressure losses.
Despite low yield point, hole cleaning not compromised due to high annular velocities.
Will be maintaining mud weight at or above 10.3 ppg.

OPERATIONS SUMMARY

RIH to 3054 m. Wash to bottom.
Drill / slide to 3169 m.
Slight flow, after high gas readings, was experienced at 3127 m with a mud weight at the time of 10.2 ppg.
Increased mud weight to 10.3 ppg.
Elevated Gas readings at 3153 m (2900 units), 3153.76 m (1200), 3154.27 m (80), 3156 m (230), 3157 m (510) and 3159 m (185).

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	833
Premix (recirc from sump)	110	Desilter			
Drill Water		Downhole	13	+ FLUID RECEIVED	110
Direct Recirc Sump		Dumped	10	- FLUID LOST	29
Other (eg Diesel)		Centrifuge	6	FLUID in STORAGE	183
TOTAL RECEIVED	110	TOTAL LOST	29	FINAL VOLUME	914

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	21	Desander			Shaker #1	4 x 310	22
Degasser		6	Desilter			Shaker #2	4 x 310	22

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.3	15.6	0.20

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	10		1	9	$ 185.35
AMC PAC-L	$ 159.98	53		5	48	$ 799.90
AMC PHPA	$ 118.90	42		1	41	$ 118.90
Salt	$ 8.65	1152		456	696	$ 3,944.40
Sodium sulphite	$ 33.30	42		1	41	$ 33.30
Xanthan Gum	$ 359.25	76		1	75	$ 359.25

Solids Analysis

	%	PPB
High Grav solids	0.8	11.34
Total LGS	8.3	78.7
Bentonite equiv.	0.5	4.2
Drilled Solids	7.8	71.4
Salt	8.2	75.8
n @ 23.00 Hrs	0.68	
K @ 23.00 Hrs	1.12	

Bit Hydraulics & Pressure Data

Jet Velocity	60
Impact force	79
HHP	5
HSI	0.2
Bit Press Loss	33
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.04 ppg
Max Pressure @ Shoe :	1791 psi

DAILY COST	CUMULATIVE COST
$5,441.10	$107,738.56

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	37	Date :	14-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3169 to 3182		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT - Scott HEALEY	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE Smith XR+	24	24	24	13 3/8	SURFACE SET @	997 ft / 304 M		HOLE 330	PITS 440	PUMP SIZE 5 X 8.5 Inches		CIRCULATION PRESS (PSI)	3000 psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2935 Mtrs			9 5/8	INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 770		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	45 min
DRILL PIPE SIZE 3.50	TYPE HW	Length 86 Mtrs			7	PRODUCTION/ LINER Set @	9839 ft / 2999 M		IN STORAGE 120		BBL/STK@ 100% 0.0516	STK / MIN 118	TOTAL CIRC. TIME (min)	151 min
DRILL COLLAR SIZE (")	4.75	Length 161 Mtrs			MUD TYPE 5% KCl-PHPA-POLYMER						BBL/MIN 5.91	GAL / MIN 248	ANN VEL. (ft/min) DP 256 / DCs 452	

	MUD PROPERTIES	
SAMPLE FROM	Below shkrs	Below shkrs
TIME SAMPLE TAKEN		11.00
DEPTH (ft) - (m) Metres		3,182
FLOWLINE TEMPERATURE ^{0}C / ^{0}F		51 / 124
WEIGHT ppg / SG		10.55 / 1.267
FUNNEL VISCOSITY (sec/qt) API @ 51 ^{0}C		36
PLASTIC VISCOSITY cP @ 55 ^{0}C		10
YIELD POINT (lb/100ft^2)		5
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1 / 3
RHEOLOGY q 600 / q 300		25 / 15
RHEOLOGY q 200 / q 100		12 / 7
RHEOLOGY q 6 / q 3		1 / 1
FILTRATE API (cc's/30 min)		6.0
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		1 / --
SOLIDS CONTENT (% by Volume)		7.8
LIQUID CONTENT (% by Volume) OIL/WATER		92.2
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		12.0
pH		9.5
ALKALINITY MUD (Pm)		0.18
ALKALINITY FILTRATE (Pf / Mf)		0.15 / 0.70
CHLORIDE (mg/L)		159,000
TOTAL HARDNESS AS CALCIUM (mg/L)		80
SULPHITE (mg/L)		120
K+ (mg/L)		52,500
KCl (% by Wt.)		10.0
PHPA (ppb)		0.83

MUD PROPERTY SPECIFICATIONS

Mud Weight	>=10.5	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Increasing mud weight due to formation flowing slightly. Using salt at present.

OPERATIONS SUMMARY

Drill / slide to 3182 m. Circulate bottoms up.
Pump slug and POH. Flow check at 2991 m - slight flow.
POH - 2846 m - Flow Check - slight flow.
POH - 2729 m - Flow Check - slight flow.
RIH to bottom - no fill.
Circulate bottoms up (4000 units gas plus oil show) and weight up to 10.5+ ppg. Flow check - hole ok.
POH. Flow check every 15 stands.
Change bit and service mwd tools.
RIH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	914
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	9	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	10	- FLUID LOST	24
Other (eg Diesel)		Centrifuge	5	FLUID in STORAGE	120
TOTAL RECEIVED		TOTAL LOST	24	FINAL VOLUME	890

Solids Control Equipment

	Type	Hrs		Cones	Hrs	FLC 514	Size	Hrs
Centrifuge	DE1000	7	Desander			Shaker #1	4 x 310	12
Degasser		9	Desilter			Shaker #2	4 x 310	12

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.3	15.6	0.50

Product	Price	Start	Received	Used	Close	Cost
Barite	$ 8.20	530	160	66	624	$ 541.20
Salt	$ 8.65	696	816	312	1200	$ 2,698.80

Solids Analysis

	%	PPB
High Grav solids	0.8	11.21
Total LGS	8.7	82.2
Bentonite equiv.	0.4	3.8
Drilled Solids	8.3	75.2
Salt	9.9	92.1
n @ 11.00 Hrs	0.74	
K @ 11.00 Hrs	0.78	

Bit Hydraulics & Pressure Data

Jet Velocity	60
Impact force	81
HHP	5
HSI	0.2
Bit Press Loss	34
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.45 ppg
Max Pressure @ Shoe :	1663 psi

DAILY COST	CUMULATIVE COST
$3,240.00	$110,978.56

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	38	Date :	15-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3182 to 3207		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT - Scott HEALEY	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		15	15	15	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE			CIRCULATION		
6.00	Hyc DSX516M		15	15			SET @	304	M	332	330	5 X 8.5	Inches		PRESS (PSI)	3100	psi
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL		ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #		2960	Mtrs			SET @	1252	M	692		3 x NAT 8-P80		97 %	UP (min)	46	min
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK		STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	30		0.0516		118	TIME (min)	117	min
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN		GAL / MIN	ANN VEL. DP	256	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						5.91		248	(ft/min) DCs	452	Tur

	MUD PROPERTIES	
SAMPLE FROM	Below shkrs	Below shkrs
TIME SAMPLE TAKEN		12.00
DEPTH (ft) - (m) Metres		3,207
FLOWLINE TEMPERATURE ^{0}C ^{0}F		50
WEIGHT ppg / SG		10.85 1.303
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		37
PLASTIC VISCOSITY cP @ 55 ^{0}C		8
YIELD POINT (lb/100ft^2)		4
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1 2
RHEOLOGY q 600 / q 300		20 12
RHEOLOGY q 200 / q 100		9 5
RHEOLOGY q 6 / q 3		1 1
FILTRATE API (cc's/30 min)		4.8
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		8.3
LIQUID CONTENT (% by Volume) OIL/WATER		91.7
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		13.0
pH		9.0
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0.12 0.66
CHLORIDE (mg/L)		183,000
TOTAL HARDNESS AS CALCIUM (mg/L)		120
SULPHITE (mg/L)		150
K+ (mg/L)		49,875
KCI (% by Wt.)		9.5
PHPA (ppb)	0.83	0.83

MUD PROPERTY SPECIFICATIONS

Mud Weight	>=10.8	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Weighted mud up to salt saturation point. An approximate volume of 60 bbls was expected to result from the addition of the salt that was made.
Once saturation point was reached, barite additions were made.
Lost mud on wet trip and while cleaning out mud tanks of settled salt.
At 24.00 hours, a 120 bbl premix of weghted mud was being built. Usage will be on tomorrows report.

OPERATIONS SUMMARY

RIH to1948 m. Break circulation. Flow check - slight flow and gain 1/2 bbl.
Mud aerated. Continure RIH to shoe. Circ btms up - 600 units gas.
RIH 3154 m. Wash to bottom.
Drill - 3207 m. (3445 units gas from bottoms up at 3154 m.)
Gas peak at 4000 units with oil cut mud over shakers.
Circulate and weigh up from 10.6 - 10.8+.
Shut in well and circulate through choke. Continue weighing up.
Open annular - well static. Attempt to circulate - no go. Attempt to unblock string. No go. POH to shoe. Attempt to unblock string - no go.
POH wet. Found salt packed off from 2nd stand heavy weight pipe. Break off stands and clear blockages. Pick up mud motor and make up bit.
RIH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	890
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	0	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	196	- FLUID LOST	198
Other (eg Diesel)		Centrifuge	1	+ FLUID IN STORAGE	30
TOTAL RECEIVED		TOTAL LOST	198	FINAL VOLUME	722

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		2	Desander			Shaker #1	4 x 310	12
Degasser			Desilter			Shaker #2	4 x 310	12

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.5	16.8	0.50
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	624	960	103	1481	$ 844.60
Salt	$ 8.65	1200		978	222	$ 8,459.70

Solids Analysis

	%	PPB
High Grav solids	1.9	27.93
Total LGS	7.5	70.6
Bentonite	0.7	6.3
Drilled Solids	6.8	61.5
Salt	11.4	106.0
n @ 12.00 Hrs	0.74	
K @ 12.00 Hrs	0.62	

Bit Hydraulics & Pressure Data

Jet Velocity	92
Impact force	128
HHP	12
HSI	0.4
Bit Press Loss	83
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.71 ppg
Max Pressure @ Shoe :	1509 psi

DAILY COST	CUMULATIVE COST
$9,304.30	$120,282.86

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	39	Date :	16-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3207 to 3267		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian MARRIOTT - Scott HEALEY - Ray E	REPORT FOR	Andy BAKER
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		15	15	15	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION			
6.00	Hyc DSX516M		15	15			SET @	304	M	338	440	5 x 8.5	Inches	PRESS (PSI)	3080	psi	
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS			
SIZE 3.5	15.5 #		3020	Mtrs			SET @	1252	M	1028		3 x NAT 8-P80	97 %	UP (min)	47	min	
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.			
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	250		0.0516	118	TIME (min)	174	min	
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL.	DP	256	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						5.91	248	(ft/min)	DCs	452	Tur

MUD PROPERTIES				
SAMPLE FROM		Below shkrs		Below shkrs	
TIME SAMPLE TAKEN		12.00		24.00	
DEPTH (ft) - (m)	Metres	3,231		3,267	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	49		51	
WEIGHT	ppg / SG	11.00	1.321	11.10	1.333
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	36		34	
PLASTIC VISCOSITY cP @	55 ^{0}C	7		8	
YIELD POINT (lb/100ft^2)		4		6	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1	2	1	1
RHEOLOGY q 600 / q 300		18	11	22	14
RHEOLOGY q 200 / q 100		8	5	11	7
RHEOLOGY q 6 / q 3		1	0.5	1	1
FILTRATE API (cc's/30 min)		4.6		4.6	
HPHT FILTRATE (cc's/30 min) @	^{0}F				
CAKE THICKNESS API : HPHT (32nd in)		2		2	
SOLIDS CONTENT (% by Volume)		9.7		8.6	
LIQUID CONTENT (% by Volume) OIL/WATER			90.3		91.4
SAND CONTENT (% by Vol.)		0.10		0.10	
METHYLENE BLUE CAPACITY (ppb equiv.)		12.0		12.0	
pH		9.0		9.0	
ALKALINITY MUD (Pm)		0.15		0.16	
ALKALINITY FILTRATE (Pf / Mf)		0.12	0.65	0.14	0.70
CHLORIDE (mg/L)		156,000		177,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		100		80	
SULPHITE (mg/L)		120		120	
K+ (mg/L)		44,625		39,375	
KCI (% by Wt.)		8.5		7.5	
PHPA (ppb)		0.72		0.70	

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.0 - 11.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Maintaining mud weight in range 11.0 - 11.2 ppg with barite now.
Have mixed extra premixes throughout day to build volume in active system and extra has been stored in pill and premix tanks. This is in case extra volume is required in a hurry.
Mud properties are remaining quite stable. Extra Xanthan gum has been added to slightly boost yield point, as it had dropped to 4 lb/100ft². Yield point being run in a range that is a compromise between maintaining minimal friction losses and reasonable suspension characteristics for the barite.
A further 800 sacks barite and 168 sacks KCl delivered just after midnight, but have been added to the inventory for todays report.

OPERATIONS SUMMARY

RIH to 2998 m Circulate bottoms up. 2500 units gas.
RIH - 3007 m - tag fill (salt). Lightly was to bottom.
Drill ahead to 3217 m. 4956 units gas. Increase mud weight to 11.0 ppg.
Drill / slide to 3267 m.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	692
Premix (recirc from sump)	360	Desilter			
Drill Water		Downhole	24	+ FLUID RECEIVED	360
Direct Recirc Sump		Dumped		- FLUID LOST	24
Other (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	250
TOTAL RECEIVED	360	TOTAL LOST	24	FINAL VOLUME	1,278

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 310	21
Degasser			Desilter			Shaker #2	4 x 310	21

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	9		3	6	$ 556.05
AMC Defoamer	$ 146.40	5		1	4	$ 146.40
AMC PAC-L	$ 159.98	48		6	42	$ 959.88
AMC PHPA	$ 118.90	41		3	38	$ 356.70
Baryte	$ 8.20	1481	800	981	1300	$ 8,044.20
Caustic Soda	$ 48.90	24		2	22	$ 97.80
Potassium Chloride (T	$ 18.95	195	168	153	210	$ 2,899.35
Salt	$ 8.65	222		174	48	$ 1,505.10
Sodium Sulphite	$ 33.30	41		3	38	$ 99.90
Xanthan Gum	$ 359.25	75		7	68	$ 2,514.75

Solids Analysis

	%	PPB
High Grav solids	4.8	70.39
Total LGS	3.8	36.1
Bentonite	1.0	9.3
Drilled Solids	2.8	25.4
Salt	10.9	102.5
n @ 24.00 Hrs	0.65	
K @ 24.00 Hrs	1.23	

Bit Hydraulics & Pressure Data

Jet Velocity	92
Impact force	131
HHP	12
HSI	0.4
Bit Press Loss	84
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	12.38 ppg
Max Pressure @ Shoe :	1381 psi

DAILY COST	CUMULATIVE COST
$17,180.13	$137,462.99

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	40	Date :	17-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3267 to 3361		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Scott Healey - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		15	15	15	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE			CIRCULATION		
6.00	Hyc DSX516M		15	15			SET @	304	M	347	463	5 x 8.5	Inches		PRESS (PSI)	3150	psi
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL		ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #		3114	Mtrs			SET @	1252	M	950		3 x NAT 8-P80		97 %	UP (min)	49	min
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK		STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	140		0.0516		116	TIME (min)	164	min
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN		GAL / MIN	ANN VEL. DP	252	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						5.81		244	(ft/min) DCs	445	Tur

		MUD PROPERTIES			
SAMPLE FROM		Below shkrs		Below shkrs	
TIME SAMPLE TAKEN		13.30		23.00	
DEPTH (ft) - (m)	Metres	3,315		3,357	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	53		54	
WEIGHT	ppg / SG	11.25	1.351	11.20	1.345
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	35		36	
PLASTIC VISCOSITY cP @	55 ^{0}C	9		10	
YIELD POINT (lb/100ft^2)		7		8	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1	1	1	2
RHEOLOGY q 600 / q 300		25	16	28	18
RHEOLOGY q 200 / q 100		12	8	14	9
RHEOLOGY q 6 / q 3		1	1	2	1
FILTRATE API (cc's/30 min)		4.4		4.2	
HPHT FILTRATE (cc's/30 min) @	^{0}F				
CAKE THICKNESS API : HPHT (32nd in)		1		1	
SOLIDS CONTENT (% by Volume)		9.5		9.2	
LIQUID CONTENT (% by Volume) OIL/WATER			90.5		90.8
SAND CONTENT (% by Vol.)		Tr		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		11.0		11.0	
pH		9.0		9.0	
ALKALINITY MUD (Pm)					
ALKALINITY FILTRATE (Pf / Mf)		0.15	0.78	0.20	0.90
CHLORIDE (mg/L)		175,500		175,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		120		100	
SULPHITE (mg/L)		150		120	
K+ (mg/L)		36,750		35,438	
KCI (% by Wt.)		7.0		6.8	
PHPA (ppb)		0.70		0.70	

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.2 - 11.3	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

At 23.30 hrs started increasing mud weight to approx 11.3 ppg as gas levels appear to be on average higher than earlier in day.
Premix additions (mixed and costed previously) are maintaining stable properties and slowly increasing rheological properties.
Gas peaks are corresponding to periods / times when pump pressure is reduced (eg when picking up off bottom) and when pumps are stopped, thereby taking the ECD portion of the "hydrostatic" off the formation.
Defoamer used previously.

OPERATIONS SUMMARY

Drill / slide.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1028
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	53	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	25	- FLUID LOST	78
Other (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	140
TOTAL RECEIVED		TOTAL LOST	78	FINAL VOLUME	1,090

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		5.5	Desander			Shaker #1	4 x 310	24
Degasser			Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.3	21.5	0.40
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC Defoamer	$ 146.40	4		2	2	$ 292.80
Baryte	$ 8.20	1300		132	1168	$ 1,082.40
Caustic Soda	$ 48.90	22		1	21	$ 48.90

Solids Analysis

	%	PPB
High Grav solids	5.3	77.88
Total LGS	3.5	33.4
Bentonite	0.9	8.5
Drilled Solids	2.6	23.6
Salt	10.7	101.3
n @ 23.00 Hrs	0.64	
K @ 23.00 Hrs	1.73	

Bit Hydraulics & Pressure Data

Jet Velocity	90
Impact force	128
HHP	12
HSI	0.4
Bit Press Loss	82
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.65 ppg
Max Pressure @ Shoe :	1330 psi

DAILY COST	CUMULATIVE COST
$1,424.10	$138,887.09

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	41	Date :	18-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3361 to 3418		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Scott Healey - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		15	15	15	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION			
6.00	Hyc DSX516M		15	15			SET @	304	M	353	447	5 X 8.5	Inches	PRESS (PSI)	3000	psi	
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS			
SIZE 3.5	15.5 #		3171	Mtrs			SET @	1252	M	981		3 x NAT 8-P80	97 %	UP (min)	49	min	
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.			
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	181		0.0516	116	TIME (min)	169	min	
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL.	DP	252	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						5.81	244	(ft/min)	DCs	445	Tur

		MUD PROPERTIES			
SAMPLE FROM		Below shkrs		Below shkrs	
TIME SAMPLE TAKEN		13.00		23.45	
DEPTH (ft) - (m)	Metres	3,393		3,418	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	53		53	
WEIGHT	ppg / SG	11.30	1.357	11.30	1.357
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	35		35	
PLASTIC VISCOSITY cP @	55 ^{0}C	10		10	
YIELD POINT (lb/100ft^2)		8		9	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1	2	1	2
RHEOLOGY q 600 / q 300		28	18	29	19
RHEOLOGY q 200 / q 100		14	10	15	10
RHEOLOGY q 6 / q 3		2	1	2	1
FILTRATE API (cc's/30 min)		6.2		5.5	
HPHT FILTRATE (cc's/30 min) @	^{0}F				
CAKE THICKNESS API : HPHT (32nd in)		1		1	
SOLIDS CONTENT (% by Volume)		9.8		9.8	
LIQUID CONTENT (% by Volume) OIL/WATER			90.2		90.2
SAND CONTENT (% by Vol.)		Tr		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		10.0		9.0	
pH		9.0		9.0	
ALKALINITY MUD (Pm)					
ALKALINITY FILTRATE (Pf / Mf)		0.17	0.84	0.15	0.80
CHLORIDE (mg/L)		174,000		171,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		120		140	
SULPHITE (mg/L)		120		100	
K+ (mg/L)		38,063		36,750	
KCI (% by Wt.)		7.3		7.0	
PHPA (ppb)		0.72		0.74	

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.3 - 11.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Maintaining mud weight at 11.3 - 11.4 ppg.
Majority of barite mixed was to pre-weight a further premix of fresh mud.
Initially, premix had no Pac-LV added as fluid loss was very stable below 5 cc's. Miday check however showed an increasng trend so 3 sacks Pac-LV were added to premix. Fluid loss subsequently has come back down and appears stable.
Potassium is being continually topped up as there is some depletion occurring.

OPERATIONS SUMMARY

Drill / slide to 3386 m. Tight hole at 3385 m - 40 k max over pull.
Circulate bottoms up, pump heavy weight pill and POH wiper trip.
POH to 3280 m - max OP of 25 k. Pump out 3280 - 3251 m. Hole tight at 3259 m - max OP of 50 k. POH to shoe.
RIH. Wash and ream 3222 - bottom. Pull 25 k OP at 3385 m.
Wash and ream 3 m to bottom.
Drill / slide to 3418 m.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	950
Premix (recirc from sump)	100	Desilter			
Drill Water		Downhole	54	+ FLUID RECEIVED	100
Direct Recirc Sump		Dumped	15	- FLUID LOST	69
Other (eg Diesel)		Centrifuge		+ FLUID IN STORAGE	181
TOTAL RECEIVED	100	TOTAL LOST	69	FINAL VOLUME	1,162

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 310	19
Degasser			Desilter			Shaker #2	4 x 310	19

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	6		1	5	$ 185.35
AMC PAC-L	$ 159.98	42		3	39	$ 479.94
AMC PHPA	$ 118.90	38		2	36	$ 237.80
Baryte	$ 8.20	1168		384	784	$ 3,148.80
Caustic Soda	$ 48.90	21		1	20	$ 48.90
Potassium Chloride (T	$ 18.95	210		84	126	$ 1,591.80
Sodium Sulphite	$ 33.30	38		3	35	$ 99.90
Xanthan Gum	$ 359.25	68		2	66	$ 718.50

Solids Analysis

	%	PPB
High Grav solids	5.5	81.09
Total LGS	4.3	40.6
Bentonite	0.6	5.4
Drilled Solids	3.7	33.6
Salt	10.5	99.0
n @ 23.45 Hrs	0.61	
K @ 23.45 Hrs	2.17	

Bit Hydraulics & Pressure Data

Jet Velocity	90
Impact force	129
HHP	12
HSI	0.4
Bit Press Loss	83
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.80 ppg
Max Pressure @ Shoe :	1279 psi

DAILY COST	CUMULATIVE COST
$6,510.99	$145,398.08

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	42	Date :	19-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3418 to 3507		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Scott Healey - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	15	15	15	13 3/8 SURFACE	997	ft		HOLE	PITS	PUMP SIZE		CIRCULATION		
6.00	Hyc DSX516M	15	15		SET @	304	M		362	453	5 X 8.5	Inches	PRESS (PSI)	3130	psi
DRILL PIPE	TYPE	Length			9 5/8 INTERMEDIATE	4107	ft		TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #	3260	Mtrs		SET @	1252	M		944		3 x NAT 8-P80	97 %	UP (min)	52	min
DRILL PIPE	TYPE	Length			7 PRODUCTION. o	9839	ft		IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW	86	Mtrs		LINER Set @	2999	M		129		0.0516	114	TIME (min)	165	min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL. DP	247	Tur
	4.75	161	Mtrs		5% KCI-PHPA-POLYMER						5.71	240	(ft/min) DCs	437	Tur

		MUD PROPERTIES	
SAMPLE FROM		Below shkrs	Below shkrs
TIME SAMPLE TAKEN			16.00
DEPTH (ft) - (m)	Metres		3,507
FLOWLINE TEMPERATURE	^{0}C ^{0}F		54
WEIGHT	ppg / SG		11.30 1.357
FUNNEL VISCOSITY (sec/qt) API @	^{0}C		35
PLASTIC VISCOSITY cP @	55 ^{0}C		10
YIELD POINT (lb/100ft^2)			9
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			1 2
RHEOLOGY q 600 / q 300			29 19
RHEOLOGY q 200 / q 100			15 10
RHEOLOGY q 6 / q 3			2 1
FILTRATE API (cc's/30 min)			5.2
HPHT FILTRATE (cc's/30 min) @	^{0}F		
CAKE THICKNESS API : HPHT (32nd in)			1
SOLIDS CONTENT (% by Volume)			9.3
LIQUID CONTENT (% by Volume) OIL/WATER			90.7
SAND CONTENT (% by Vol.)			Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			9.0
pH			9.0
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			0.14 0.82
CHLORIDE (mg/L)			182,000
TOTAL HARDNESS AS CALCIUM (mg/L)			160
SULPHITE (mg/L)			100
K+ (mg/L)			40,688
KCI (% by Wt.)			7.8
PHPA (ppb)			0.69

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.2 - 11.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Rapid losses to hole occurred after drilling a sand at 3335 m. Losses of 20 bbl / hour were initially recorded. Losses almost self healed, perhaps with aid of some Kwikseal fine.
Losses were ongoing then throughout day, albeit at far lower rates that are presently of little concern.
A weighted slug was spotted in casing at 2000 m to give an equivalent mud weight at 3192 m of 13.65 ppg - the weight predicted to prevent gas from trickling into the wellbore.
Received truckload of barite and KCl this evening.
Note that Volume Summary is up until 21.00 hrs, and assumes pipe in hole.

OPERATIONS SUMMARY

Drill / Slide to 3507 m.
Circulate bottoms up, pump heavy weight pill and POH to 2000 m.
Pump 60 bbl, 13.5 ppg slug and chase with heavy weight pill.
POH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	981
Premix (recirc from sump)	100	Desilter			
Drill Water		Downhole	126	+ FLUID RECEIVED	100
Direct Recirc Sump		Dumped	10	- FLUID LOST	137
Other (eg Diesel)		Centrifuge	2	+ FLUID IN STORAGE	129
TOTAL RECEIVED	100	TOTAL LOST	137	FINAL VOLUME	1,073

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		2.5	Desander			Shaker #1	4 x 310	18
Degasser			Desilter			Shaker #2	4 x 310	18

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.4	20.9	0.48
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	5		1	4	$ 185.35
AMC PHPA	$ 118.90	36		2	34	$ 237.80
Baryte	$ 8.20	784	800	304	1280	$ 2,492.80
Caustic Soda	$ 48.90	20		1	19	$ 48.90
KWIKSEAL - F	$ 56.39	80		2	78	$ 112.78
Potassium Chloride (T	$ 18.95	126	168	84	210	$ 1,591.80
Xanthan Gum	$ 359.25	66		3	63	$ 1,077.75

Solids Analysis

	%	PPB
High Grav solids	5.7	83.45
Total LGS	3.6	33.9
Bentonite	0.7	6.2
Drilled Solids	2.9	26.5
Salt	11.2	105.4
n @ 16.00 Hrs	0.61	
K @ 16.00 Hrs	2.17	

Bit Hydraulics & Pressure Data

Jet Velocity	89
Impact force	125
HHP	11
HSI	0.4
Bit Press Loss	80
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.80 ppg
Max Pressure @ Shoe :	1279 psi

DAILY COST	CUMULATIVE COST
$5,747.18	$151,145.26

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	43	Date :	20-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3507 to 3563		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		15	15	15	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION			
6.00	Hyc DSX516M		15	15			SET @	304	M	367	473	5 X 8.5	Inches	PRESS (PSI)	2800	psi	
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS			
SIZE 3.5	15.5 #		3316	Mtrs			SET @	1252	M	1064		3 x NAT 8-P80	97 %	UP (min)	51	min	
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.			
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	224		0.0516	118	TIME (min)	180	min	
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL.	DP	256	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						5.91	248	(ft/min)	DCs	452	Tur

MUD PROPERTIES				
SAMPLE FROM		Below shkrs		Below shkrs
TIME SAMPLE TAKEN		12.30		22.30
DEPTH (ft) - (m)	Metres	3,528		3,558
FLOWLINE TEMPERATURE	^{0}C ^{0}F	48		50
WEIGHT	ppg / SG	11.30	1.357	11.20 1.345
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	37		36
PLASTIC VISCOSITY cP @	55 ^{0}C	12		11
YIELD POINT (lb/100ft^2)		10		9
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1 2		1 2
RHEOLOGY q 600 / q 300		34	22	31 20
RHEOLOGY q 200 / q 100		17	11	16 11
RHEOLOGY q 6 / q 3		2	1	2 1
FILTRATE API (cc's/30 min)		5.4		5.5
HPHT FILTRATE (cc's/30 min) @	^{0}F			
CAKE THICKNESS API : HPHT (32nd in)		1		1
SOLIDS CONTENT (% by Volume)		9.1		8.7
LIQUID CONTENT (% by Volume) OIL/WATER			90.9	91.3
SAND CONTENT (% by Vol.)		Tr		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		8.0		8.0
pH		9.0		9.5
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)		0.15	0.85	0.17 0.92
CHLORIDE (mg/L)		184,000		181,000
TOTAL HARDNESS AS CALCIUM (mg/L)		140		120
SULPHITE (mg/L)		80		120
K+ (mg/L)		42,000		42,000
KCI (% by Wt.)		8.0		8.0
PHPA (ppb)		0.69		0.70

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.2 - 11.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Mud tank volume has been increased to near maximum as a safety measure in case of severe lost circulation, which is still a possibility.
Two KCl - Caustic - water slugs (5 bbls each) were circulated in case poor ROP was due to some bit balling.
Mud losses to hole since resuming drilling have been very slight, if at all.
Reduced mud weight to 11.2 ppg earlier in day.
Truckload of mud arrived soon after midnight on 21st October - Mainly calcium carbonate for use as possible LCM.

OPERATIONS SUMMARY

Make up bit and RIH.
Break circulation at 1122 m and then at 2575 m, at which stage the 60 bbl heavy weight slug that had been spotted while POH, was circulated out of the hole and diverted to the pill tank.
Continued RIH to 3487 m. Wash and ream to bottom - no fill.
Circulate bottoms up and drill ahead.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	944
Premix (recirc from sump)	100	Desilter			
Drill Water	35	Downhole	13	+ FLUID RECEIVED	135
Direct Recirc Sump		Dumped		- FLUID LOST	15
Other (eg Diesel)		Centrifuge	2	+ FLUID IN STORAGE	224
TOTAL RECEIVED	135	TOTAL LOST	15	FINAL VOLUME	1,288

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		3	Desander			Shaker #1	4 x 310	18
Degasser			Desilter			Shaker #2	4 x 310	18

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.4	21.0	0.47
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	4		2	2	$ 370.70
AMC PHPA	$ 118.90	34		2	32	$ 237.80
Baryte	$ 8.20	1280		320	960	$ 2,624.00
Caustic Soda	$ 48.90	19		3	16	$ 146.70
KWIKSEAL - F	$ 56.39	78		1	77	$ 56.39
Potassium Chloride (T	$ 18.95	210		84	126	$ 1,591.80
Sodium Sulphite	$ 33.30	35		4	31	$ 133.20
Xanthan Gum	$ 359.25	63		2	61	$ 718.50

Solids Analysis

	%	PPB
High Grav solids	5.5	81.11
Total LGS	3.2	30.5
Bentonite	0.6	5.4
Drilled Solids	2.6	23.8
Salt	11.2	104.8
n @ 22.30 Hrs	0.63	
K @ 22.30 Hrs	1.99	

Bit Hydraulics & Pressure Data

Jet Velocity	92
Impact force	132
HHP	12
HSI	0.4
Bit Press Loss	85
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.70 ppg
Max Pressure @ Shoe :	1330 psi

DAILY COST	CUMULATIVE COST
$5,879.09	$157,024.35

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	44	Date :	21-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3563 to 3572		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE	18	18	18	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE			CIRCULATION		
6.00	Reed DSX111	18	18	18		SET @	304	M	368	474	5 X 8.5	Inches		PRESS (PSI)	2880	psi
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF		BOTTOMS		
SIZE 3.5	15.5 #		3325	Mtrs		SET @	1252	M	992		3 x NAT 8-P80	97	%	UP (min)	51	min
DRILL PIPE	TYPE	Length			7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN		TOTAL CIRC.		
SIZE 3.50	HW		86	Mtrs		LINER Set @	2999	M	150		0.0516	118		TIME (min)	168	min
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN		ANN VEL. DP	256	Tur
	4.75		161	Mtrs	5% KCI-PHPA-POLYMER						5.91	248		(ft/min) DCs	452	Tur

		MUD PROPERTIES	
SAMPLE FROM		Below shkrs	
TIME SAMPLE TAKEN		22.30	
DEPTH (ft) - (m)	Metres	3,570	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	51	
WEIGHT	ppg / SG	11.20	1.345
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	37	
PLASTIC VISCOSITY cP @	55 ^{0}C	11	
YIELD POINT (lb/100ft^2)		10	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2	3
RHEOLOGY q 600 / q 300		32	21
RHEOLOGY q 200 / q 100		16	11
RHEOLOGY q 6 / q 3		3	2
FILTRATE API (cc's/30 min)		6.2	
HPHT FILTRATE (cc's/30 min) @	^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		1	
SOLIDS CONTENT (% by Volume)		8.9	
LIQUID CONTENT (% by Volume) OIL/WATER			91.1
SAND CONTENT (% by Vol.)		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		8.0	
pH		9.5	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0.15	0.90
CHLORIDE (mg/L)		168,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		80	
SULPHITE (mg/L)		100	
K+ (mg/L)		40,688	
KCI (% by Wt.)		7.8	
PHPA (ppb)		0.75	

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.2 - 11.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Maintaining mud weight at 11.2 ppg - selectively using centrifuge as required.

Mud system quite stable. Adding premix very slowly to maintain properties.

Note that bit has 4x20 and 2x10 nozzles - due to mud report limitation of only only 6 nozzles, this configuration iis equivalent to 6 x 17.8 nozzles.

OPERATIONS SUMMARY

Drill to 3546 m. Circulate and work pipe. Pump pill and POH.
Hole tight : 50 k over pull 3510 m - 3505 m.
25 k over pull 3505 m - 3190 m.
15 k over pull 3190 m to shoe.
Change bit and mud motor and RIH.
Hang up at 3510 m.
Wash and ream to bottom.
Drill ahead.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1064
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	45	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	25	- FLUID LOST	72
Other (eg Diesel)		Centrifuge	2	+ FLUID IN STORAGE	150
TOTAL RECEIVED		TOTAL LOST	72	FINAL VOLUME	1,142

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		3	Desander			Shaker #1	4 x 310	9
Degasser			Desilter			Shaker #2	4 x 310	9

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Centrifuge	10.4	21.0	0.47
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	960		40	920	$ 328.00
Caustic Soda	$ 48.90	16		1	15	$ 48.90
Sodium Sulphite	$ 33.30	31		1	30	$ 33.30

Solids Analysis

	%	PPB
High Grav solids	6.2	91.81
Total LGS	2.6	24.7
Bentonite	0.7	6.1
Drilled Solids	1.9	17.6
Salt	10.3	97.3
n @ 22.30 Hrs	0.61	
K @ 22.30 Hrs	2.43	

Bit Hydraulics & Pressure Data

Jet Velocity	54
Impact force	78
HHP	4
HSI	0.2
Bit Press Loss	30
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.75 ppg
Max Pressure @ Shoe :	1330 psi

DAILY COST	CUMULATIVE COST
$410.20	$157,434.55

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	45	Date :	22-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3572 to 3612		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		18	18	18	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE			CIRCULATION		
6.00	Reed DSX111		18	18	18		SET @	304	M	372	466	5 x 8.5	Inches		PRESS (PSI)	2980	psi
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL		ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #		3365	Mtrs			SET @	1252	M	966		3 x NAT 8-P80		97 %	UP (min)	51	min
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK		STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	128		0.0516		118	TIME (min)	164	min
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN		GAL / MIN	ANN VEL. DP	256	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						5.91		248	(ft/min) DCs	452	Tur

MUD PROPERTIES				
SAMPLE FROM		Below Shkrs		Below Shkrs	
TIME SAMPLE TAKEN		10.30		22.45	
DEPTH (ft) - (m)	Metres	3,588		3,610	
FLOWLINE TEMPERATURE	^{0}C ^{0}F	53		55	
WEIGHT	ppg / SG	11.20	1.345	11.20	1.345
FUNNEL VISCOSITY (sec/qt) API @	^{0}C	36		37	
PLASTIC VISCOSITY cP @	55 ^{0}C	11		12	
YIELD POINT (lb/100ft^2)		11		12	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		1	3	2	5
RHEOLOGY q 600 / q 300		33	22	36	24
RHEOLOGY q 200 / q 100		17	12	19	13
RHEOLOGY q 6 / q 3		3	1	3	2
FILTRATE API (cc's/30 min)		6.2		7.0	
HPHT FILTRATE (cc's/30 min) @	^{0}F				
CAKE THICKNESS API : HPHT (32nd in)		1		1	
SOLIDS CONTENT (% by Volume)		8.9		8.7	
LIQUID CONTENT (% by Volume) OIL/WATER			91.1		91.3
SAND CONTENT (% by Vol.)		Tr		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		7.5		7.0	
pH		9.5		9.0	
ALKALINITY MUD (Pm)					
ALKALINITY FILTRATE (Pf / Mf)		0.14	0.92	0.12	0.88
CHLORIDE (mg/L)		168,000		170,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		80		100	
SULPHITE (mg/L)		120		120	
K+ (mg/L)		40,688		40,688	
KCI (% by Wt.)		7.8		7.8	
PHPA (ppb)		0.81		0.81	

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.2 - 11.25	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Barite used to mix slug in anticipation of bit trip that didn't occur. Is still in Pill tank and will be used for next trip.
Maintaining good volume in active system wth addition of premix.
Fluid loss showing increasing trend so will be adding Pac-LV to premix.
Rheology also showing increasing trend, probably due to dehydration, as solids content and type of solids are fairly benign. Ncreased rheology has also increased ECD marginally.

Note that bit has 4x20 and 3x10 nozzles - due to mud report limitation of only only 6 nozzles, this configuration iis equivalent to 6 x 17.8 nozzles.

OPERATIONS SUMMARY

Drill ahead.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	992
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	24	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	26
Other (eg Diesel)		Other	2	+ FLUID IN STORAGE	128
TOTAL RECEIVED		TOTAL LOST	26	FINAL VOLUME	1,094

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		4	Desander			Shaker #1	4 x 310	24
Degasser			Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander	10.4	21.0	0.47
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	39		2	37	$ 319.96
Baryte	$ 8.20	920		40	880	$ 328.00
Caustic Soda	$ 48.90	15		1	14	$ 48.90
Sodium Sulphite	$ 33.30	30		2	28	$ 66.60

Solids Analysis

	%	PPB
High Grav solids	6.2	91.81
Total LGS	2.5	23.6
Bentonite	0.6	5.1
Drilled Solids	1.9	17.5
Salt	10.5	98.4
n @ 22.45 Hrs	0.58	
K @ 22.45 Hrs	3.20	

Bit Hydraulics & Pressure Data

Jet Velocity	54
Impact force	78
HHP	4
HSI	0.2
Bit Press Loss	30
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.80 ppg
Max Pressure @ Shoe :	1330 psi

DAILY COST	CUMULATIVE COST
$763.46	$158,198.01

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	46	Date :	23-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3612 to 3648		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Scott Healey	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE	18	18	18	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION			
6.00	Reed DSX111	18	18	18		SET @	304	M	375	471	5 X 8.5	Inches	PRESS (PSI)	3040	psi	
DRILL PIPE	TYPE	Length			9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS			
SIZE 3.5	15.5 #		3401	Mtrs		SET @	1252	M	1028		3 x NAT 8-P80	97 %	UP (min)	52	min	
DRILL PIPE	TYPE	Length			7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.			
SIZE 3.50	HW		86	Mtrs		LINER Set @	2999	M	182		0.0516	118	TIME (min)	174	min	
DRILL COLLAR SIZE (")		Length			MUD TYPE						BBL/MIN	GAL / MIN	ANN VEL.	DP	256	Tur
	4.75		161	Mtrs	5% KCI-PHPA-POLYMER						5.91	248	(ft/min)	DCs	452	Tur

MUD PROPERTIES				
SAMPLE FROM			Below Shkrs	Below Shkrs
TIME SAMPLE TAKEN			10.30	23.20
DEPTH (ft) - (m)		Metres	3,627	3,648
FLOWLINE TEMPERATURE	^{0}C ^{0}F		56	57
WEIGHT		ppg / SG	11.20 1.345	11.10 1.333
FUNNEL VISCOSITY (sec/qt) API @		^{0}C	36	36
PLASTIC VISCOSITY cP @		55 ^{0}C	11	12
YIELD POINT (lb/100ft^2)			12	12
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			2 5	2 4
RHEOLOGY q 600 / q 300			34 23	36 24
RHEOLOGY q 200 / q 100			18 14	19 14
RHEOLOGY q 6 / q 3			3 2	3 2
FILTRATE API (cc's/30 min)			6.8	6.6
HPHT FILTRATE (cc's/30 min) @		^{0}F		
CAKE THICKNESS API : HPHT (32nd in)			1	1
SOLIDS CONTENT (% by Volume)			8.0	7.5
LIQUID CONTENT (% by Volume) OIL/WATER			92.0	92.5
SAND CONTENT (% by Vol.)			Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			7.0	6.5
pH			9.0	9.0
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)			0.13 0.90	0.12 0.92
CHLORIDE (mg/L)			172,000	171,000
TOTAL HARDNESS AS CALCIUM (mg/L)			100	80
SULPHITE (mg/L)			150	120
K+ (mg/L)			40,688	40,688
KCI (% by Wt.)			7.8	7.8
PHPA (ppb)			0.83	0.79

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.1	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

A further premiix was built to maintain good surface volume.
Mud weight now being maintained at appox 11.1 ppg.
Fluid loss has stabilised with Pac-LV additions, although note that 6 sacks are still in the premix that has not been added yet.
Rheology is remaining stable.
Although very minor seepage loss appears to be occurring, a more rapid loss of approx 7 bbls earlier in day led to a sack of Kwikseal Fine being added.

Note that bit has 4x20 and 3x10 nozzles - due to mud report limitation of only only 6 nozzles, this configuration is equivalent to 6 x 17.8 nozzles.

OPERATIONS SUMMARY

Drill to 3641 m. Circulate and conduct wper trip to 3487 m.
Work tiight hole 3602 m - 3592 m, 3563 m - 3554 m, & 3515 m - 3506 m.
RIH - hole ok and no fill.
Wash to bottom and drill ahead.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	966
Premix (recirc from sump)	100	Desilter			
Drill Water		Downhole	27	+ FLUID RECEIVED	100
Direct Recirc Sump		Dumped	8	- FLUID LOST	37
Other (eg Diesel)		Other	2	+ FLUID IN STORAGE	182
TOTAL RECEIVED	100	TOTAL LOST	37	FINAL VOLUME	1,210

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		3	Desander			Shaker #1	4 x 310	24
Degasser			Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander	10.4	21.0	0.47
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	10		1	9	$ 185.35
AMC PAC-L	$ 159.98	37		11	26	$ 1,759.78
AMC PHPA	$ 118.90	32		1	31	$ 118.90
Baryte	$ 8.20	880		360	520	$ 2,952.00
Caustic Soda	$ 48.90	14		1	13	$ 48.90
KWIKSEAL - F	$ 56.39	77		1	76	$ 56.39
Potassium Chloride (T	$ 18.95	294		42	252	$ 795.90
Sodium Sulphite	$ 33.30	28		1	27	$ 33.30
Xanthan Gum	$ 359.25	61		2	59	$ 718.50

Solids Analysis

	%	PPB
High Grav solids	6.7	98.61
Total LGS	0.8	7.3
Bentonite	0.7	6.5
Drilled Solids	0.1	0.5
Salt	10.5	99.0
n @ 23.20 Hrs	0.58	
K @ 23.20 Hrs	3.20	

Bit Hydraulics & Pressure Data

Jet Velocity	54
Impact force	78
HHP	4
HSI	0.2
Bit Press Loss	30
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.55 ppg
Max Pressure @ Shoe :	1381 psi

DAILY COST	CUMULATIVE COST
$6,669.02	$164,867.03

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	47	Date :	24-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3648 to 3688		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Scott Healey	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD	PEP 160
LOCATION	OTWAY Basin	STATE	VICTORIA

DRILLING ASSEMBLY			JET SIZE			CASING				MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE		18	18	18	13 3/8	SURFACE	997	ft	HOLE	PITS	PUMP SIZE			CIRCULATION		
6.00	Reed DSX111		18	18	18		SET @	304	M	379	445	5 X 8.5	Inches		PRESS (PSI)	2230	psi
DRILL PIPE	TYPE	Length				9 5/8	INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL		ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #		3441	Mtrs			SET @	1252	M	941		3 x NAT 8-P80		97 %	UP (min)	65	min
DRILL PIPE	TYPE	Length				7	PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK		STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW		86	Mtrs			LINER Set @	2999	M	117		0.0516		95	TIME (min)	198	min
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN		GAL / MIN	ANN VEL. DP	206	Tur
	4.75		161	Mtrs		5% KCI-PHPA-POLYMER						4.76		200	(ft/min) DCs	364	Lam

MUD PROPERTIES						
SAMPLE FROM			Below Shkrs		Below Shkrs	
TIME SAMPLE TAKEN			12.00		22.30	
DEPTH (ft) - (m)		Metres	3,664		3,687	
FLOWLINE TEMPERATURE	^{0}C	^{0}F	56		57	
WEIGHT		ppg / SG	11.10	1.333	11.10	1.333
FUNNEL VISCOSITY (sec/qt) API @		^{0}C	37		38	
PLASTIC VISCOSITY cP @		55 ^{0}C	11		12	
YIELD POINT (lb/100ft^2)			13		13	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			2	5	2	5
RHEOLOGY q 600 / q 300			35	24	37	25
RHEOLOGY q 200 / q 100			19	15	20	15
RHEOLOGY q 6 / q 3			3	2	4	2
FILTRATE API (cc's/30 min)			6.5		6.4	
HPHT FILTRATE (cc's/30 min) @		^{0}F				
CAKE THICKNESS API : HPHT (32nd in)			1		1	
SOLIDS CONTENT (% by Volume)			7.7		7.7	
LIQUID CONTENT (% by Volume) OIL/WATER				92.3		92.3
SAND CONTENT (% by Vol.)			Tr		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)			6.5		6.5	
pH			9.0		9.0	
ALKALINITY MUD (Pm)						
ALKALINITY FILTRATE (Pf / Mf)			0.13	0.95	0.10	0.98
CHLORIDE (mg/L)			167,000		166,000	
TOTAL HARDNESS AS CALCIUM (mg/L)			80		100	
SULPHITE (mg/L)			150		120	
K+ (mg/L)			40,688		39,375	
KCI (% by Wt.)			7.8		7.5	
PHPA (ppb)			0.79		0.79	

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.1	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Lost approx 35+ bbls after slight drilling break at 3672 m. The losses soon reverted back to the normal minor seepage losses.
Pump rate cut back to 95 strokes in attempt to improve ROP by slowing mud motor RPM. This means that rheological parameters can be relaxed upwards somewhat to better suspend barite in anticipation of extended logging run/s.
While drilling through to total depth, will be adding extra biocide and will increase pH to approx 9.5 - 10.0.
As it appears the liklihood of massive lost circulation has past, will not be keeping mud tanks at maximum capacity.
Note that bit has 4x20 and 3x10 nozzles - due to mud report limitation of only only 6 nozzles, this configuration is equivalent to 6 x 17.8 nozzles.

OPERATIONS SUMMARY

Drill ahead.
Work tight connection at 3688 m - 65 k max overpull.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	1028
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	74	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	10	- FLUID LOST	87
Other (eg Diesel)		Other	3	+ FLUID IN STORAGE	117
TOTAL RECEIVED		TOTAL LOST	87	FINAL VOLUME	1,058

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		3	Desander			Shaker #1	4 x 310	24
Degasser			Desilter			Shaker #2	4 x 310	24

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander	10.4	21.0	0.47
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC PAC-L	$ 159.98	26	64	0	90	$ 0.00
Baryte	$ 8.20	520	880	0	1400	$ 0.00
Caustic Soda	$ 48.90	13	12	1	24	$ 48.90
KWIKSEAL - F	$ 56.39	76		1	75	$ 56.39
Sodium Sulphite	$ 33.30	27		2	25	$ 66.60

Solids Analysis

	%	PPB
High Grav solids	6.7	98.61
Total LGS	1.0	9.5
Bentonite	0.7	6.3
Drilled Solids	0.3	2.8
Salt	10.2	96.1
n @ 22.30 Hrs	0.57	
K @ 22.30 Hrs	3.76	

Bit Hydraulics & Pressure Data

Jet Velocity	44
Impact force	50
HHP	2
HSI	0.1
Bit Press Loss	19
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.55 ppg
Max Pressure @ Shoe :	1381 psi

DAILY COST	CUMULATIVE COST
$171.89	$165,038.92

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	48	Date :	25-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3688 to 3700		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Scott Healey	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	18	18	18	13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
6.00	Reed DSX111	18	18	18	SET @	304	M	380	442	5 X 8.5	Inches	PRESS (PSI)	2350	psi
DRILL PIPE	TYPE	Length			9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #	3453	Mtrs		SET @	1252	M	915		3 x NAT 8-P80	97 %	UP (min)	65	min
DRILL PIPE	TYPE	Length			7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW	86	Mtrs		LINER Set @	2999	M	93		0.0516	95	TIME (min)	193	min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	206	Tur
4.75		161	Mtrs		5% KCI-PHPA-POLYMER					4.76	200	(ft/min) DCs	364	Lam

MUD PROPERTIES				
SAMPLE FROM			Below Shkrs	Below Shkrs
TIME SAMPLE TAKEN			11.30	17.30
DEPTH (ft) - (m)		Metres	3,697	3,700
FLOWLINE TEMPERATURE	^{0}C	^{0}F	55	54
WEIGHT		ppg / SG	11.15 1.339	11.10 1.321
FUNNEL VISCOSITY (sec/qt) API @	^{0}C		39	39
PLASTIC VISCOSITY cP @	55 ^{0}C		13	13
YIELD POINT (lb/100ft^2)			13	13
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			2 7	2 6
RHEOLOGY q 600 / q 300			39 26	39 26
RHEOLOGY q 200 / q 100			21 14	20 14
RHEOLOGY q 6 / q 3			3 2	3 2
FILTRATE API (cc's/30 min)			7.8	6.4
HPHT FILTRATE (cc's/30 min) @	^{0}F			
CAKE THICKNESS API : HPHT (32nd in)			1	1
SOLIDS CONTENT (% by Volume)			8.7	7.6
LIQUID CONTENT (% by Volume) OIL/WATER			91.3	92.4
SAND CONTENT (% by Vol.)			Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			6.5	6.5
pH			9.0	9.5
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)			0.15 1.10	0.20 1.40
CHLORIDE (mg/L)			160,000	158,000
TOTAL HARDNESS AS CALCIUM (mg/L)			80	20
SULPHITE (mg/L)			150	150
K+ (mg/L)			42,000	42,000
KCI (% by Wt.)			8.0	8.0
PHPA (ppb)			0.79	0.79

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.1	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Increased Pac-LV additions as fluid loss was again showing an increasing trend.

Barite used to build a 70 bbl (with 10 bbl dead volume) slug of 14.5 ppg mud to spot at 1000 m so as to give an equivalent hydrostatic below the shoe of 11.6 ppg.

OPERATIONS SUMMARY

Wiper trip to 3690 m - 65 k over pull.
RIH - wash to bottom and no fill.
Circulate hole clean and POH to shoe for repairs to top drive.
RIH - wash to bottom and no fill.
Drill ahead to Total Depth of 3700 m.
Circulate hole clean and POH wiper trip to 3400 m - 40 k max over pull.
RIH and circulate bottoms up - 3000 units gas.
POH to shoe and pump heavy weight slug.
POH to 1000 m and pump 60 bbls 14.5 ppg slug.
POH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	941
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	14	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	10	- FLUID LOST	26
Other (eg Diesel)		Other	2	+ FLUID IN STORAGE	93
TOTAL RECEIVED		TOTAL LOST	26	FINAL VOLUME	1,008

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge		3	Desander			Shaker #1	4 x 310	13
Degasser			Desilter			Shaker #2	4 x 310	13

	Overflow (ppg)	Underflow (ppg)	Output (Gal/Min.)
Desander	10.4	21.0	0.47
Desilter		0	

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	9		1	8	$ 185.35
AMC PAC-L	$ 159.98	90		8	82	$ 1,279.84
Baryte	$ 8.20	1400		160	1240	$ 1,312.00
Caustic Soda	$ 48.90	24		2	22	$ 97.80
KWIKSEAL - F	$ 56.39	75		1	74	$ 56.39
Sodium Sulphite	$ 33.30	25		1	24	$ 33.30
Xanthan Gum	$ 359.25	59		1	58	$ 359.25

Solids Analysis

	%	PPB
High Grav solids	6.7	98.61
Total LGS	0.9	8.1
Bentonite	0.7	6.4
Drilled Solids	0.2	1.4
Salt	9.7	91.5
n @ 17.30 Hrs	0.58	
K @ 17.30 Hrs	3.47	

Bit Hydraulics & Pressure Data

Jet Velocity	44
Impact force	50
HHP	2
HSI	0.1
Bit Press Loss	19
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	13.60 ppg
Max Pressure @ Shoe :	1433 psi

DAILY COST	CUMULATIVE COST
$3,323.93	$168,362.85

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	49	Date :	26-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3700 to 3700		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott	REPORT FOR	Andy Baker

WELL NAME AND No	FIELD	LOCATION	STATE
GLENAIRE # 1 ST1	PEP 160	OTWAY Basin	VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	18	18	18	13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
6.00	Reed DSX111	18	18	18	SET @	304	M	380	475	5 X 8.5	Inches	PRESS (PSI)	psi
DRILL PIPE	TYPE	Length			9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	3453	Mtrs		SET @	1252	M	885		3 x NAT 8-P80	97 %	UP (min)	min
DRILL PIPE	TYPE	Length			7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.	
SIZE 3.50	HW	86	Mtrs		LINER Set @	2999	M	30		0.0516		TIME (min)	min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	Lam
4.75		161	Mtrs		5% KCI-PHPA-POLYMER							(ft/min) DCs	Lam

MUD PROPERTIES		
SAMPLE FROM		Pit
TIME SAMPLE TAKEN		21.30
DEPTH (ft) - (m) Metres		3,700
FLOWLINE TEMPERATURE ^{0}C ^{0}F		
WEIGHT ppg / SG		11.15 1.339
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		41
PLASTIC VISCOSITY cP @ 55 ^{0}C		13
YIELD POINT (lb/100ft^2)		14
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		2 6
RHEOLOGY q 600 / q 300		40 27
RHEOLOGY q 200 / q 100		21 14
RHEOLOGY q 6 / q 3		4 2
FILTRATE API (cc's/30 min)		6.2
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		1
SOLIDS CONTENT (% by Volume)		8.8
LIQUID CONTENT (% by Volume) OIL/WATER		91.2
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		6.5
pH		9.5
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0.22 1.35
CHLORIDE (mg/L)		158,000
TOTAL HARDNESS AS CALCIUM (mg/L)		40
SULPHITE (mg/L)		120
K+ (mg/L)		42,000
KCI (% by Wt.)		8.0
PHPA (ppb)	0.79	0.79

MUD PROPERTY SPECIFICATIONS

Mud Weight	11.1	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Minor losses to hole while logging.

OPERATIONS SUMMARY

POH.
Rig up and run logs - Run # 1 and # 2.
Rig down loggers.
Pressure test.
Make up bit and RIH.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	915
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	20	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	10	- FLUID LOST	30
Other (eg Diesel)		Other		+ FLUID IN STORAGE	30
TOTAL RECEIVED		TOTAL LOST	30	FINAL VOLUME	915

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 310	1
Degasser			Desilter			Shaker #2	4 x 310	1

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

Product	Price	Start	Received	Used	Close	Cost

Solids Analysis

	%	PPB
High Grav solids	6.7	98.61
Total LGS	2.1	19.6
Bentonite	0.6	5.0
Drilled Solids	1.5	13.8
Salt	9.7	91.5
n @ 21.30 Hrs	0.57	
K @ 21.30 Hrs	4.03	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	11.60 ppg
Max Pressure @ Shoe :	1356 psi

DAILY COST	CUMULATIVE COST
	$168,362.85

RMN ENGINEER	Andre Skujins	CITY	Adelaide Office	TELEPHONE	08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	50	Date :	27-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3700 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	18	18	18	13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
6.00	Reed DSX111	18	18	18	SET @	304	M	381	308	5 X 8.5	Inches	PRESS (PSI)	1550	psi
DRILL PIPE	TYPE	Length			9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #	3454	Mtrs		SET @	1252	M	909		3 x NAT 8-P80	97 %	UP (min)	69	min
DRILL PIPE	TYPE	Length			7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW	86	Mtrs		LINER Set @	2999	M	220		0.0516	90	TIME (min)	202	min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	195	Lam
4.75		161	Mtrs		5% KCI-PHPA-POLYMER					4.50	189	(ft/min) DCs	345	Lam

MUD PROPERTIES				
SAMPLE FROM			Below Shkrs	Below Shkrs
TIME SAMPLE TAKEN			11.00	01.30
DEPTH (ft) - (m)		Metres	3,701	3,701
FLOWLINE TEMPERATURE	^{0}C	^{0}F	49	45
WEIGHT		ppg / SG	11.10 1.333	12.10 1.453
FUNNEL VISCOSITY (sec/qt) API @	^{0}C		40	41
PLASTIC VISCOSITY cP @	55 ^{0}C		13	14
YIELD POINT (lb/100ft^2)			14	18
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			2 6	3 6
RHEOLOGY q 600 / q 300			40 27	46 32
RHEOLOGY q 200 / q 100			22 15	26 18
RHEOLOGY q 6 / q 3			3 2	4 3
FILTRATE API (cc's/30 min)			6.4	6.8
HPHT FILTRATE (cc's/30 min) @	^{0}F			
CAKE THICKNESS API : HPHT (32nd in)			1	1
SOLIDS CONTENT (% by Volume)			9.9	16.0
LIQUID CONTENT (% by Volume) OIL/WATER			90.1	84.0
SAND CONTENT (% by Vol.)			Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			6.5	7.0
pH			9.5	8.5
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)			0.20 1.40	0.12 0.85
CHLORIDE (mg/L)			144,000	140,000
TOTAL HARDNESS AS CALCIUM (mg/L)			60	100
SULPHITE (mg/L)			120	100
K+ (mg/L)			42,000	52,500
KCI (% by Wt.)			8.0	10.0
PHPA (ppb)			0.69	0.61

MUD PROPERTY SPECIFICATIONS

Mud Weight	12 - 12.2	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Increasing mud weight led to increased downhole losses. Kwikseal Fine additions appeared to minimise the losses.
Initial mud weight increases were made with barite, but when further volume was required calcium carbonate was the main additive to increase the weight to 12.1 ppg. The calcium carbonate also acted as a LCM
Shakers occasionally bypassed when large amounts of LCM returned.
Shaker screens changed to 84 mesh later in the day to prevent stripping out of weight material.
Note that volume and material usage was through to 3.00 am 28th Oct.
Mud Storage : Pill Tank has 78 bbls @14.4 ppg
Premix Tank has 84 bbls @ 11.7 ppg
Suction Tank has 58 bbls @ 12.1 ppg

OPERATIONS SUMMARY

RIH to 1200 m. Circulate out heavy weight slug and store in pill tank.
RIH to shoe. Circulate bottoms up and repair top drive.
RIH to 3652 m. Wash to bottom. Drill to 2701 m. Circulate hole clean.
Flow check - slight flow. Weight up incrementally, with regular flow checks, to 12.1 ppg.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	220	Desander		INITIAL VOLUME	885
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	197	+ FLUID RECEIVED	220
Direct Recirc Sump		Dumped		- FLUID LOST	197
Other (eg Diesel)		Other		+ FLUID IN STORAGE	220
TOTAL RECEIVED	220	TOTAL LOST	197	FINAL VOLUME	1,129

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	19
Degasser			Desilter			Shaker #2	4 x 84	19

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	8		1	7	$ 185.35
Baryte	$ 8.20	1240		1184	56	$ 9,708.80
Calcium carbonate F	$ 14.20	192		192		$ 2,726.40
Calcium carbonate M	$ 12.60	384		384		$ 4,838.40
Calcium carbonate U	$ 17.40	192		192		$ 3,340.80
Caustic Soda	$ 48.90	22		1	21	$ 48.90
KWIKSEAL - F	$ 56.39	74		20	54	$ 1,127.80
Potassium Chloride	$ 18.95	252		252		$ 4,775.40
Salt	$ 8.65	48		48		$ 415.20
Xanthan Gum	$ 359.25	58		8	50	$ 2,874.00

Solids Analysis

	%	PPB
High Grav solids	9.3	136.58
Total LGS	6.7	63.5
Bentonite	0.0	0.3
Drilled Solids	6.7	60.7
Salt	8.7	81.1
n @ 01.30 Hrs	0.52	
K @ 01.30 Hrs	6.26	

Bit Hydraulics & Pressure Data

Jet Velocity	42
Impact force	49
HHP	2
HSI	0.1
Bit Press Loss	19
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	12.70 ppg
Max Pressure @ Shoe :	870 psi

DAILY COST	CUMULATIVE COST
$30,041.05	$198,403.90

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	51	Date :	28-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	18	18	18	13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
6.00	Reed DSX111	18	18	18	SET @	304	M	381	410	5 X 8.5	Inches	PRESS (PSI)	1820 psi
DRILL PIPE	TYPE	Length			9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	3454	Mtrs		SET @	1252	M	894		3 x NAT 8-P80	97 %	UP (min)	69 min
DRILL PIPE	TYPE	Length			7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.	
SIZE 3.50	HW	86	Mtrs		LINER Set @	2999	M	103		0.0516	89	TIME (min)	201 min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	193 Lam
4.75		161	Mtrs		5% KCI-PHPA-POLYMER					4.45	187	(ft/min) DCs	341 Lam

MUD PROPERTIES				
SAMPLE FROM			Below Shkrs	Below Shkrs
TIME SAMPLE TAKEN			13.30	22.30
DEPTH (ft) - (m)		Metres	3,701	3,701
FLOWLINE TEMPERATURE	^{0}C	^{0}F	45	46
WEIGHT		ppg / SG	12.10 1.453	12.40 1.489
FUNNEL VISCOSITY (sec/qt) API @	^{0}C		42	42
PLASTIC VISCOSITY cP @	55 ^{0}C		13	15
YIELD POINT (lb/100ft^2)			18	19
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min			3 5	4 6
RHEOLOGY q 600 / q 300			44 31	49 34
RHEOLOGY q 200 / q 100			25 18	28 21
RHEOLOGY q 6 / q 3			4 3	5 3
FILTRATE API (cc's/30 min)			6.5	7.3
HPHT FILTRATE (cc's/30 min) @		^{0}F		
CAKE THICKNESS API : HPHT (32nd in)			2	2
SOLIDS CONTENT (% by Volume)			16.0	17.5
LIQUID CONTENT (% by Volume) OIL/WATER			84.0	82.5
SAND CONTENT (% by Vol.)			Tr	Tr
METHYLENE BLUE CAPACITY (ppb equiv.)			7.0	7.0
pH			9.0	8.5
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)			0.14 1.10	0.10 0.90
CHLORIDE (mg/L)			140,000	140,000
TOTAL HARDNESS AS CALCIUM (mg/L)			100	120
SULPHITE (mg/L)			100	80
K+ (mg/L)			52,500	52,500
KCI (% by Wt.)			10.0	10.0
PHPA (ppb)			0.61	0.61

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.1 => 12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCI	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Despite increasing mud weiights, down hole losses have fortunately stayed very minor and are presently no cause for concern.
Xanthan Gum used to increase suspension properties of heavy weight pill.

OPERATIONS SUMMARY

Weight up mud with regular flow checks.
When more barite arrived, increased mud weight from 12.1 ppg to 12.4 pp
Circulate bottoms up. Flow check.
Spot 30 bbls heavy weight pill (14.5 ppg) on bottom - top of pill ~3450 m.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	909
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	15	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	15
Other (eg Diesel)		Other		+ FLUID IN STORAGE	103
TOTAL RECEIVED		TOTAL LOST	15	FINAL VOLUME	997

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	23
Degasser			Desilter			Shaker #2	4 x 84	23

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

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	56	1920	332	1644	$ 2,722.40
Xanthan Gum	$ 359.25	50		1	49	$ 359.25

Solids Analysis

	%	PPB
High Grav solids	10.7	157.01
Total LGS	6.8	64.5
Bentonite	0.0	0.2
Drilled Solids	6.8	61.8
Salt	8.7	81.1
n @ 22.30 Hrs	0.53	
K @ 22.30 Hrs	6.50	

Bit Hydraulics & Pressure Data

Jet Velocity	41
Impact force	49
HHP	2
HSI	0.1
Bit Press Loss	19
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	13.00 ppg
Max Pressure @ Shoe :	716 psi

DAILY COST	CUMULATIVE COST
$3,081.65	$201,485.55

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	52	Date :	29-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	Andy Baker

WELL NAME AND No	FIELD	LOCATION	STATE
GLENAIRE # 1 ST1	PEP 160	OTWAY Basin	VICTORIA

DRILLING ASSEMBLY				JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE	OP	EN		13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
6.00	Smith N32619				SET @	304	M	381	419	5 X 8.5	Inches	PRESS (PSI)	2000	psi
DRILL PIPE	TYPE	Length			9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
SIZE 3.5	15.5 #	3454	Mtrs		SET @	1252	M	855		3 x NAT 8-P80	97 %	UP (min)	73	min
DRILL PIPE	TYPE	Length			7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.		
SIZE 3.50	HW	86	Mtrs		LINER Set @	2999	M	55		0.0516	85	TIME (min)	201	min
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	184	Lam
4.75		161	Mtrs		5% KCI-PHPA-POLYMER					4.25	179	(ft/min) DCs	326	Lam

MUD PROPERTIES		
SAMPLE FROM	Below Shkrs	Below Shkrs
TIME SAMPLE TAKEN		01.00
DEPTH (ft) - (m) Metres		3,701
FLOWLINE TEMPERATURE ^{0}C ^{0}F		39
WEIGHT ppg / SG		12.60 1.513
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		41
PLASTIC VISCOSITY cP @ 55 ^{0}C		14
YIELD POINT (lb/100ft^2)		19
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		4 6
RHEOLOGY q 600 / q 300		47 33
RHEOLOGY q 200 / q 100		28 20
RHEOLOGY q 6 / q 3		5 4
FILTRATE API (cc's/30 min)		7.8
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		2
SOLIDS CONTENT (% by Volume)		18.8
LIQUID CONTENT (% by Volume) OIL/WATER		81.2
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		9.0
pH		8.0
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0 0.83
CHLORIDE (mg/L)		136,000
TOTAL HARDNESS AS CALCIUM (mg/L)		160
SULPHITE (mg/L)		80
K+ (mg/L)		52,500
KCI (% by Wt.)		10.0
PHPA (ppb)		0.61

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

As heavy weight pill that was spotted on bottom was circulated up the hole, losses to the formation increased, but stabilised once the pill was circulated out. Note that the washing to bottom was to space the pill out into the lower density mud being circulated around.

Mud weight is now a bit patchy, varying from 12.5+ to 12.8 ppg, with most reading around 12.6 - 12.65 ppg. The mud is noticeably cooler, which may also be part of the reason for the higher mud weights, apart from the heavy weight slug.

Mud losses seemd to have stabilised now.

OPERATIONS SUMMARY

POH with regular flow checks.
Work tight hole 3672 m - 3250 m. Max Overpull 65 k.
POH.
Run logs.
Make up bit (open jets) and RIH.
Circulate bottoms up at shoe - 312 units gas.)
RIH to bottom, washing from 3394 m - bottom.
Circulate bottoms up.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	894
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	39	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	39
Other (eg Diesel)		Other		+ FLUID IN STORAGE	55
TOTAL RECEIVED		TOTAL LOST	39	FINAL VOLUME	910

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	4
Degasser			Desilter			Shaker #2	4 x 84	4

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

Product	Price	Start	Received	Used	Close	Cost
Caustic Soda	$ 48.90	21		2	19	$ 97.80
KWIKSEAL - F	$ 56.39	54		3	51	$ 169.17

Solids Analysis

	%	PPB
High Grav solids	11.5	169.60
Total LGS	7.2	68.4
Bentonite	0.2	2.0
Drilled Solids	7.0	63.7
Salt	8.5	78.7
n @ 01.00 Hrs	0.51	
K @ 01.00 Hrs	7.01	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	12.70 ppg
Max Pressure @ Shoe :	614 psi

DAILY COST	CUMULATIVE COST
$266.97	$201,752.52

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	53	Date :	30-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY			JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE			13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 401	PITS 386	PUMP SIZE 5 x 8.5 Inches		CIRCULATION PRESS (PSI)	psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2907 Mtrs		9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 944		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 3.50	TYPE HW	Length Mtrs		7 PRODUCTION. o LINER Set @	9839 ft / 2999 M		IN STORAGE 157		BBL/STK 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
Liner Size (")	4.50	Length 794 Mtrs		MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	Lam / Lam

MUD PROPERTIES	Below Shkrs	Pit	
SAMPLE FROM			
TIME SAMPLE TAKEN		14.00	
DEPTH (ft) - (m) Metres		3,701	
FLOWLINE TEMPERATURE ^{0}C / ^{0}F			
WEIGHT ppg / SG		12.60	1.513
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		42	
PLASTIC VISCOSITY cP @ 55 ^{0}C		14	
YIELD POINT (lb/100ft^2)		20	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		4	6
RHEOLOGY q 600 / q 300		48	34
RHEOLOGY q 200 / q 100		28	21
RHEOLOGY q 6 / q 3		6	4
FILTRATE API (cc's/30 min)		7.6	
HPHT FILTRATE (cc's/30 min) @ ^{0}F			
CAKE THICKNESS API : HPHT (32nd in)		2	
SOLIDS CONTENT (% by Volume)		18.8	
LIQUID CONTENT (% by Volume) OIL/WATER			81.2
SAND CONTENT (% by Vol.)		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		9.0	
pH		8.0	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0	0.80
CHLORIDE (mg/L)		136,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		160	
SULPHITE (mg/L)		80	
K+ (mg/L)		52,500	
KCl (% by Wt.)		10.0	
PHPA (ppb)		0.50	

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Mixed a further 118 bbls of 12.5 ppg mud - simply as extra mud in case of losses down hole. Used Xanthan gum and barite.
A Halliburton "Tuned Spacer" was mixed and weighted to 13.0 ppg with barite. Severe foaming required 4 drums of defoamer to control.

OPERATIONS SUMMARY

Circulate.
Flow check and spot 30 bbls of 14.5 ppg mud on bottom.
POH with regular flow checks.
Rig up and run 4-1/2" liner.
Repair draw-works.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	118	Desander		INITIAL VOLUME	855
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	29	+ FLUID RECEIVED	118
Direct Recirc Sump		Dumped		- FLUID LOST	29
Other (eg Diesel)		Other		+ FLUID IN STORAGE	157
TOTAL RECEIVED	118	TOTAL LOST	29	FINAL VOLUME	1,101

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	1
Degasser			Desilter			Shaker #2	4 x 84	

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	7		1	6	$ 185.35
AMC Defoamer	$ 146.40	6		4	2	$ 585.60
Baryte	$ 8.20	1644		660	984	$ 5,412.00
Xanthan Gum	$ 359.25	49		3	46	$ 1,077.75

Solids Analysis

	%	PPB
High Grav solids	9.4	138.66
Total LGS	10.7	101.6
Bentonite	-0.2	-2.0
Drilled Solids	10.9	99.6
Salt	8.5	78.7
n @ 14.00 Hrs	0.50	
K @ 14.00 Hrs	7.82	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	13.20 ppg
Max Pressure @ Shoe :	614 psi

DAILY COST	CUMULATIVE COST
$7,260.70	$209,013.22

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	54	Date :	31-Oct-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	Andy Baker
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 6.00	TYPE		13 3/8 SURFACE SET @	997 ft / 304 M		HOLE 388	PITS 329	PUMP SIZE 5 x 8.5 Inches		CIRCULATION PRESS (PSI)	psi
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 2907 Mtrs	9 5/8 INTERMEDIATE SET @	4107 ft / 1252 M		TOTAL CIRCULATING VOL. 844		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE 3.50	TYPE HW	Length Mtrs	7 PRODUCTION. o LINER Set @	9839 ft / 2999 M		IN STORAGE 127		BBL/STK 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (") 4.50		Length 794 Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	Lam / Lam

MUD PROPERTIES		
SAMPLE FROM	Below Shkrs	
TIME SAMPLE TAKEN	12.00	
DEPTH (ft) - (m) Metres	3,701	
FLOWLINE TEMPERATURE ^{0}C / ^{0}F	35	
WEIGHT ppg / SG	12.60	1.513
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C	46	
PLASTIC VISCOSITY cP @ 55 ^{0}C	16	
YIELD POINT (lb/100ft^2)	22	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min	5	7
RHEOLOGY q 600 / q 300	54	38
RHEOLOGY q 200 / q 100	33	24
RHEOLOGY q 6 / q 3	7	6
FILTRATE API (cc's/30 min)	8.6	
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)	2	
SOLIDS CONTENT (% by Volume)	18.8	
LIQUID CONTENT (% by Volume) OIL/WATER		81.2
SAND CONTENT (% by Vol.)	Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)	9.0	
pH	8.0	
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)	0	0.80
CHLORIDE (mg/L)	136,000	
TOTAL HARDNESS AS CALCIUM (mg/L)	180	
SULPHITE (mg/L)	60	
K+ (mg/L)	52,500	
KCl (% by Wt.)	10.0	
PHPA (ppb)	0.42	

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Apart from barite and Xanthan Gum usage, all other inventory items are inventory corrections.
Returned all mud to stores except for barite, biocide, defoamer, KCl and half pallet of Xanthan Gum.
Due to considerable mud losses during cement job and due to flowing wel a further premix of 11.4 ppg mud was built.

OPERATIONS SUMMARY

RIH with liner. Circulate bottoms up at casing shoe.
RIH - 3551 m. Flow check.
RIH - 3608 m - circulate heavy weight pill to casing shoe.
RIH to 3694 m.
Circulate bottoms up. Make up cement head.
Conduct cement job. Mud losses while pumping tuned spacer and while cementing and displacing.
Rig down cement head and circulate bottoms up. Flow check - well flowing
Circulate and spot 55 bbls of 14.5 ppg mud on bottom.
Flow check - well still flowing, so hard shut in.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)	95	Desander		INITIAL VOLUME	944
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	195	+ FLUID RECEIVED	95
Direct Recirc Sump		Dumped		- FLUID LOST	195
Other (eg Diesel)		Other		+ FLUID IN STORAGE	127
TOTAL RECEIVED	95	TOTAL LOST	195	FINAL VOLUME	971

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	8
Degasser			Desilter			Shaker #2	4 x 84	

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

Product	Price	Start	Received	Used	Close	Cost
AUS-BEN	$ 11.25	167	-165	2		$ 22.50
Baryte	$ 8.20	984		424	560	$ 3,476.80
Potassium Chloride	$ 18.95		126	0	126	$ 0.00
Soda Ash	$ 18.30	36	-34	2		$ 36.60
Xanthan Gum	$ 359.25	46	-30	2	14	$ 718.50

Solids Analysis

	%	PPB
High Grav solids	7.9	116.53
Total LGS	13.2	125.3
Bentonite		
Drilled Solids	13.8	125.2
Salt	8.5	78.7
n @ 12.00 Hrs	0.51	
K @ 12.00 Hrs	8.24	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	13.20 ppg
Max Pressure @ Shoe :	614 psi

DAILY COST	CUMULATIVE COST
$4,020.18	$213,033.40

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	55	Date :	1-Nov-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott - Ray Ell	REPORT FOR	David Sheeran
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE		13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
			SET @	304	M	401	353	5 x 8.5	Inches	PRESS (PSI)	500 psi
DRILL PIPE	TYPE	Length	9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	3701 Mtrs	SET @	1252	M	754		3 x NAT 8-P80	97 %	UP (min)	192 min
DRILL PIPE	TYPE	Length	7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.	
SIZE	HW	Mtrs	LINER Set @	2999	M	0		0.0516	35	TIME (min)	430 min
DRILL COLLAR SIZE (")		Length	MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	####
		Mtrs	5% KCl-PHPA-POLYMER					1.75	74	(ft/min) DCs	####

	MUD PROPERTIES		
SAMPLE FROM	Below Shkrs	Below Shkrs	
TIME SAMPLE TAKEN		21.45	
DEPTH (ft) - (m) Metres		2,793	
FLOWLINE TEMPERATURE ^{0}C / ^{0}F		41	
WEIGHT ppg / SG		12.40	1.489
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		41	
PLASTIC VISCOSITY cP @ 55 ^{0}C		13	
YIELD POINT (lb/100ft^2)		22	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		4	6
RHEOLOGY q 600 / q 300		48	35
RHEOLOGY q 200 / q 100		30	22
RHEOLOGY q 6 / q 3		6	4
FILTRATE API (cc's/30 min)		12.4	
HPHT FILTRATE (cc's/30 min) @ ^{0}F			
CAKE THICKNESS API : HPHT (32nd in)		2	
SOLIDS CONTENT (% by Volume)		17.9	
LIQUID CONTENT (% by Volume) OIL/WATER			82.1
SAND CONTENT (% by Vol.)		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		9.0	
pH		8.0	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0	0.76
CHLORIDE (mg/L)		108,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		200	
SULPHITE (mg/L)		40	
K+ (mg/L)		39,375	
KCl (% by Wt.)		7.5	
PHPA (ppb)		0.42	

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

Cleaned out Suction and Pill tanks.
Continued to bleed in premix tank weighing 11.4 ppg into active system, bringing weiight down to 12.3 - 12.4 ppg.
Once as much bled in as possible, thank was dumped and cleaned out also in preparation for perhaps mixing displacement brine

OPERATIONS SUMMARY

Monitor pressures.
Open Annular Preventer. Flow check. OK.
POH from 2879 m to surface.
Rig up, then rig down schlumberger.
RIH with drill pipe to 2793 m.
Circulate.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	857
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	23	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	80	- FLUID LOST	103
Other (eg Diesel)		Other		+ FLUID IN STORAGE	0
TOTAL RECEIVED		TOTAL LOST	103	FINAL VOLUME	754

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	16
Degasser			Desilter			Shaker #2	4 x 84	

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

Product	Price	Start	Received	Used	Close	Cost
Baryte	$ 8.20	560		24	536	$ 196.80

Solids Analysis

	%	PPB
High Grav solids	8.0	116.79
Total LGS	12.5	118.2
Bentonite	-0.4	-4.0
Drilled Solids	12.9	117.5
Salt	6.6	62.5
n @ 21.45 Hrs	0.46	
K @ 21.45 Hrs	10.45	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	716 psi

DAILY COST	CUMULATIVE COST
$196.80	$213,230.20

RMN ENGINEER Andre Skujins CITY Adelaide Office TELEPHONE 08 8338 7266

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	56	Date :	2-Nov-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott	REPORT FOR	David Sheeran
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE		13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
			SET @	304	M	401	305	5 X 8.5	Inches	PRESS (PSI)	psi
DRILL PIPE	TYPE	Length	9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE 3.5	15.5 #	3701 Mtrs	SET @	1252	M	721		3 x NAT 8-P80	97 %	UP (min)	min
DRILL PIPE	TYPE	Length	7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.	
SIZE	HW	Mtrs	LINER Set @	2999	M	15		0.0516		TIME (min)	min
DRILL COLLAR SIZE (")		Length Mtrs	MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP	####
			5% KCI-PHPA-POLYMER							(ft/min) DCs	####

MUD PROPERTIES			
SAMPLE FROM	Below Shkrs	Below Shkrs	
TIME SAMPLE TAKEN		22.00	
DEPTH (ft) - (m) Metres		2,793	
FLOWLINE TEMPERATURE ^{0}C ^{0}F		39	
WEIGHT ppg / SG		12.40	1.489
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		40	
PLASTIC VISCOSITY cP @ 55 ^{0}C		11	
YIELD POINT (lb/100ft^2)		21	
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		4	5
RHEOLOGY q 600 / q 300		43	32
RHEOLOGY q 200 / q 100		26	19
RHEOLOGY q 6 / q 3		5	4
FILTRATE API (cc's/30 min)		12.6	
HPHT FILTRATE (cc's/30 min) @ ^{0}F			
CAKE THICKNESS API : HPHT (32nd in)		2	
SOLIDS CONTENT (% by Volume)		18.0	
LIQUID CONTENT (% by Volume) OIL/WATER			82.0
SAND CONTENT (% by Vol.)		Tr	
METHYLENE BLUE CAPACITY (ppb equiv.)		9.0	
pH		8.0	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)		0	0.80
CHLORIDE (mg/L)		107,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		220	
SULPHITE (mg/L)		40	
K+ (mg/L)		39,375	
KCI (% by Wt.)		7.5	
PHPA (ppb)		0.42	

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

A further 880 sx barite and one pallet of Kwikseal Fine delivered just before midnight.
Will commence mixing displacement brine after midnight.

OPERATIONS SUMMARY

Rig up schlumberger and run CBL's.
Rig down. Circulate bottoms up - 3035 units gas. - slight flow.
Circulate and then pump 50 bbls heavy weight 14.5 ppg mud and spot on bottom.
Flow check and POH sideways. RIH 31 stands to 2037 m. Flow check.
Well flowing slightly. Spot 40 bbl 14.7 ppg pill at 2037 m.
POH 6 stands. Flow check and POH sideways.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	754
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	33	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped		- FLUID LOST	33
Other (eg Diesel)		Other		+ FLUID IN STORAGE	15
TOTAL RECEIVED		TOTAL LOST	33	FINAL VOLUME	736

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	15
Degasser			Desilter			Shaker #2	4 x 84	

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	6		1	5	$ 185.35
AMC Defoamer	$ 146.40	2		1	1	$ 146.40
Baryte	$ 8.20	536	880	216	1200	$ 1,771.20
KWIKSEAL - F	$ 56.39		32	0	32	$ 0.00

Solids Analysis

	%	PPB
High Grav solids	8.0	116.79
Total LGS	12.5	118.6
Bentonite	-0.4	-4.0
Drilled Solids	13.0	118.0
Salt	6.6	62.0
n @ 22.00 Hrs	0.43	
K @ 22.00 Hrs	11.48	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	716 psi

DAILY COST	CUMULATIVE COST
$2,102.95	$215,333.15

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	57	Date :	3-Nov-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott	REPORT FOR	David Sheeran
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY			JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE			13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)	psi
				SET @	304	M	401	285	5 X 8.5	Inches		
DRILL PIPE SIZE 3.5	TYPE 15.5 #	Length 3701	Mtrs	9 5/8 INTERMEDIATE SET @	4107 / 1252	ft / M	TOTAL CIRCULATING VOL. 886		PUMP MODEL 3 x NAT 8-P80	ASSUMED EFF 97 %	BOTTOMS UP (min)	min
DRILL PIPE SIZE	TYPE HW	Length	Mtrs	7 PRODUCTION. o LINER Set @	9839 / 2999	ft / M	IN STORAGE 200		BBL/STK 0.0516	STK / MIN	TOTAL CIRC. TIME (min)	min
DRILL COLLAR SIZE (")		Length	Mtrs	MUD TYPE 5% KCl-PHPA-POLYMER					BBL/MIN	GAL / MIN	ANN VEL. (ft/min) DP / DCs	#### / ####

MUD PROPERTIES		
SAMPLE FROM	Below Shkrs	Below Shkrs
TIME SAMPLE TAKEN		20.30
DEPTH (ft) - (m) Metres		RIH tubing
FLOWLINE TEMPERATURE ^{0}C ^{0}F		
WEIGHT ppg / SG		12.50 1.501
FUNNEL VISCOSITY (sec/qt) API @ ^{0}C		41
PLASTIC VISCOSITY cP @ 55 ^{0}C		11
YIELD POINT (lb/100ft^2)		22
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		4 6
RHEOLOGY q 600 / q 300		44 33
RHEOLOGY q 200 / q 100		27 19
RHEOLOGY q 6 / q 3		5 4
FILTRATE API (cc's/30 min)		13.0
HPHT FILTRATE (cc's/30 min) @ ^{0}F		
CAKE THICKNESS API : HPHT (32nd in)		2
SOLIDS CONTENT (% by Volume)		18.8
LIQUID CONTENT (% by Volume) OIL/WATER		81.2
SAND CONTENT (% by Vol.)		Tr
METHYLENE BLUE CAPACITY (ppb equiv.)		9.0
pH		8.0
ALKALINITY MUD (Pm)		
ALKALINITY FILTRATE (Pf / Mf)		0 0.80
CHLORIDE (mg/L)		107,000
TOTAL HARDNESS AS CALCIUM (mg/L)		240
SULPHITE (mg/L)		Tr
K+ (mg/L)		39,375
KCl (% by Wt.)		7.5
PHPA (ppb)		0.28

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

All mud is being saved until the tubing has been displaced successfully. Have mixed 200 bbls 3% brine with 2000 ppm biocide into Pill and Premix tanks. Further volume will be built "on the run" while displacing.

OPERATIONS SUMMARY

Lay out pipe to 1223 m. RIH 4 stands plus BHA to 1564 m.
Flow check - well flowing. Shut in and monitor.
Circulate bottoms up and pump 40 bbls 14.7 ppg mud and spot at 1564 m.
Continue laying out pipe.
Rig up and run 2-7/8" tubing.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	721
Premix (recirc from sump)		Desilter			
Drill Water	200	Downhole	35	+ FLUID RECEIVED	200
Direct Recirc Sump		Dumped		- FLUID LOST	35
Other (eg Diesel)		Other		+ FLUID IN STORAGE	200
TOTAL RECEIVED	200	TOTAL LOST	35	FINAL VOLUME	1,086

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	3
Degasser			Desilter			Shaker #2	4 x 84	3

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	5		2	3	$ 370.70
Baryte	$ 8.20	1200		112	1088	$ 918.40
Potassium Chloride	$ 18.95	126		40	86	$ 758.00

Solids Analysis

	%	PPB
High Grav solids	5.4	79.17
Total LGS	17.6	166.2
Bentonite	-1.1	-9.7
Drilled Solids	18.6	169.5
Salt	6.6	62.0
n @ 20.30 Hrs	0.41	
K @ 20.30 Hrs	12.69	

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	665 psi

DAILY COST	CUMULATIVE COST
$2,047.10	$217,380.25

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DRILLING FLUID REPORT

RMN drilling fluids

Report #	58	Date :	4-Nov-2006
Rig No	32	Spud :	8-Sep-2006
Depth	3701 to 3701		Metres

OPERATOR	BEACH Petroleum LTD	CONTRACTOR	ENSIGN Int'l Energy SVCs
REPORT FOR	Brian Marriott	REPORT FOR	David Sheeran
WELL NAME AND No	GLENAIRE # 1 ST1	FIELD / LOCATION / STATE	PEP 160 / OTWAY Basin / VICTORIA

DRILLING ASSEMBLY		JET SIZE	CASING			MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE		13 3/8 SURFACE	997	ft	HOLE	PITS	PUMP SIZE		CIRCULATION	
			SET @	304	M	457		5 X 8.5	Inches	PRESS (PSI)	psi
DRILL PIPE	TYPE	Length	9 5/8 INTERMEDIATE	4107	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS	
SIZE	#	Mtrs	SET @	1252	M	457		3 x NAT 8-P80	97 %	UP (min)	min
DRILL PIPE	TYPE	Length	7 PRODUCTION. o	9839	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.	
SIZE	HW	Mtrs	LINER Set @	2999	M			0.0516		TIME (min)	min
DRILL COLLAR SIZE (")		Length Mtrs	MUD TYPE					BBL/MIN	GAL / MIN	ANN VEL. DP (ft/min) DCs	
			5% KCI-PHPA-POLYMER								

	MUD PROPERTIES	
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		
YIELD POINT (lb/100ft^2)		
GEL STRENGTHS (lb/100ft^2) 10 sec/10 min		
RHEOLOGY q 600 / q 300		
RHEOLOGY q 200 / q 100		
RHEOLOGY q 6 / q 3		
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)		
KCI (% by Wt.)		
PHPA (ppb)		0.28

MUD PROPERTY SPECIFICATIONS

Mud Weight	12.4	API Filtrate	6 - 8	HPHT Filtrate	NA
Plastic Vis	ALAP	Yield Point	8 - 15	pH	9.0 - 9.5
KCl	>5%	PHPA	0.75 - 1.5	Sulphites	80 - 120

OBSERVATIONS

OPERATIONS SUMMARY

Run 2-7/8" tubing.
Pressure test - ok.
Displace hole to brine.
Once completed, mud tanks were dumped and cleaned.

Mud Accounting (bbls)

FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY	
Premix (drill water)		Desander		INITIAL VOLUME	886
Premix (recirc from sump)		Desilter			
Drill Water		Downhole	-65	+ FLUID RECEIVED	
Direct Recirc Sump		Dumped	494	- FLUID LOST	429
Other (eg Diesel)		Other		+ FLUID IN STORAGE	
TOTAL RECEIVED		TOTAL LOST	429	FINAL VOLUME	457

Solids Control Equipment

	Type	Hrs		Cones	Hrs		Size	Hrs
Centrifuge			Desander			Shaker #1	4 x 84	3
Degasser			Desilter			Shaker #2	4 x 84	

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

Product	Price	Start	Received	Used	Close	Cost
AMC Biocide G	$ 185.35	3		3		$ 556.05
Class A Cement	$ 11.33	21		21		$ 237.93
Potassium Chloride	$ 18.95	86		71	15	$ 1,345.45

Solids Analysis

	%	PPB
High Grav solids	5.4	79.17
Total LGS		
Bentonite		
Drilled Solids		
Salt		
n @ Hrs		
K @ Hrs		

Bit Hydraulics & Pressure Data

Jet Velocity	
Impact force	
HHP	
HSI	
Bit Press Loss	
CSG Seat Frac Press	2200 psi
Equiv. Mud Wt.	13.80 ppg
ECD	
Max Pressure @ Shoe :	#VALUE!

DAILY COST	CUMULATIVE COST
$2,139.43	$219,519.68

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CASING AND CEMENTING REPORT

WELL: Glenaire 01 **SUPERVISOR:** 0 **DATE:** 9/09/2006

CASING DETAILS

Size (")	13 3/8	Weight (ppf)	54.5	Grade	K-55	Landed depth (mRT)	304.0	Av. Length	10.99	Collapse (psi)	1130	Burst (psi)	2730
Joints on location	27	No. of joints run	27	Joints in shoe track	1	Float shoe (Y/N)	Y	Float collar (Y/N)	Y				
Final displ. (psi)	273	Buoyed wt. (kLb)	47	Set weight (kLb)	9	Displ. (Bbls)	20	Coupling	BTC				

PRE JOB CIRCULATION

Pump 1 (spm)	110	Pump 2 (spm)		Pressure	200	Time (mins)	60	Vol. Pumped (Bbls)	448	Mud wt (ppg)	9.0

PRE-FLUSH

Volume (Bbls)	80	Wt(ppg)	8.33	Hyd. Loss (psi)	23	**Additives:**	Water	Kg	
								Kg	

TAIL SLURRY

Wt(ppg)	15.8	Class	G	Volume (Bbls)	79	Yield	1.17	Sacks	380	Water (g/sx)	5.21	Water (Bbls)	47	Design top	204
OH/Cal	OH	Excess (%)	80	Hole size (")	17.5	Mix (bpm)	5	Mix (psi)	180	Start	23:50	Finish	00:45		

Additives:								
	%		0.3	gals	NF-6 / 10bbls MF		lb	
	%			gals			lb	

LEAD SLURRY

Wt(ppg)	12.5	Class	G	Volume (Bbls)	148	Yield	2.13	Sacks	390	Water (g/sx)	12.42	Water (Bbls)	115	Design top	0
OH/Cal	OH	Excess (%)	80	Hole size (")	17.5	Mix (bpm)	5	Mix (psi)	120	Start	23:15	Finish	23:45		

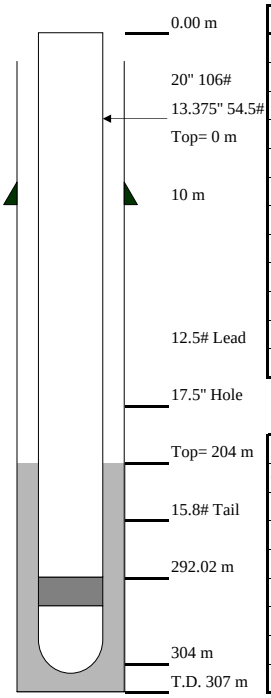
Additives:								
	%		0.3	gals	NF-6 / 10bbls MF		lb	
	%		20.0	gals	Econolite		lb	

DISPLACEMENT

Fluid type	Water	Wt	8.33	Calculated (Bbls)	148	Pumped (Bbls)	150	Bump pressure (psi)	1300	Used (Rig/Unit)	Haliburton						
Time: Start	00:20	Finish	00:45	Returns (%)	100	Top plug (Y/N)	Y	Bottom plug (Y/N)	Y	Floats held (Y/N)	Y						
Pressure (psi)	Initial	120	final	170	max		min		**Rate (bpm)**	Initial	6	final	3	max		min	

LOT / FIT

OMW (ppg)		FIT (ppg)		FIT Pressure (psi)	0	Test pressure (psi)		EMW (ppg)	0.00		



CASING RUN LIST

QTY	DESCRIPTION	LENGTH	FROM	TO
1	Landing Jnt	6.58	297.42	304.00
26	Jnt's	285.44	11.98	297.42
1	Float Collar	0.37	11.61	11.98
1	Jnt.	11.16	0.45	11.61
1	Shoe	0.45	0.00	0.45

COMMENTS

No pre-flush water or cement to surface, plug bumped @ 650psi, pressure up to 1300psi for 10 minutes, good test, bleed off pressure, returned 1.5bbls water, float holding.

Good cmt. Job, no problems with the unit or operator.

Have aprox 200 sx cement left for a top up (80bbls @ 12.5ppg). Will mix & pump cmt. after cmt. samples set

Commence cmt. Job @ 23:15hrs on 8th Sept., complete operation @ 01:00hrs on the 9th Sept.

CASING AND CEMENTING REPORT

WELL: Glenaire 01 **SUPERVISOR:** #N/A **DATE:** 15-9-06

CASING DETAILS

Size (")	9 5/8	Weight (ppf)	36	Grade	K-55	Landed depth (mRT)	1252.0	Av. Length	11.93	Collapse (psi)	2020	Burst (psi)	3520
Joints on location	105	No. of joints run	105	Joints in shoe track	1	Float shoe (Y/N)	Y	Float collar (Y/N)	Y				
Final displ. (psi)	#N/A	Buoyed wt. (kLb)	#N/A	Set weight (kLb)	#N/A	Displ. (Bbls)	54	Coupling	BTC				

PRE JOB CIRCULATION

Pump 1 (spm)	120	Pump 2 (spm)		Pressure	250	Time (mins)	60	Vol. Pumped (Bbls)	488	Mud wt (ppg)	#N/A

PRE-FLUSH

Volume (Bbls)	50	Wt(ppg)	8.34	Hyd. Loss (psi)	#N/A	**Additives:**		Kg	
								Kg	

TAIL SLURRY

Wt(ppg)	15.8	Class	G	Volume (Bbls)	31	Yield	1.15	Sacks	150	Water (g/sx)	5.10	Water (Bbls)	18	Design top	1150
OH/Cal	OH	Excess (%)	50	Hole size (")	12.25	Mix (bpm)	4.0	Mix (psi)	130	Start	04:08	Finish	04:15		

Additives:									
CFR-3	%	0.2bwoc		gals			lb	
NF-6	%		25/10bl	gals			lb	

LEAD SLURRY

Wt(ppg)	12.5	Class	G	Volume (Bbls)	296	Yield	2.13	Sacks	780	Water (g/sx)	11.83	Water (Bbls)	220	Design top	0
OH/Cal	OH	Excess (%)	50	Hole size (")	12.25	Mix (bpm)	5.3	Mix (psi)	130	Start	03:05	Finish	04:05		

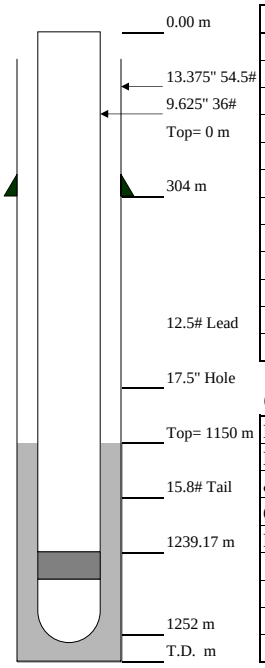
Additives:									
conolit	%		10bbl	gals			lb	
NF-6	%		/10bbl	gals			lb	

DISPLACEMENT

Fluid type	Mud	Wt	9.30	Calculated (Bbls)	313	Pumped (Bbls)	314	Bump pressure (psi)	2800	Used (Rig/Unit)	Halliburton				
Time: Start	04:20	Finish	05:05	Returns (%)	100	Top plug (Y/N)	Y	Bottom plug (Y/N)	Y	Floats held (Y/N)	Y				
Pressure (psi)	Initial	130	final	750	max	2800	min		**Rate (bpm)**	Initial	5.78	final	3.6	max		min	3.6

LOT / FIT

OMW (ppg)	9.30	FIT (ppg)		FIT Pressure (psi)	-1986	Test pressure (psi)		EMW (ppg)	9.30



CASING RUN LIST

QTY	DESCRIPTION	LENGTH	FROM	TO
104	Jnt. 9-5/8" csg	1239.17	12.83	1252.00
1	Float collar	0.35	12.48	12.83
1	Jnt. 9-5/8" csg	12.05	0.43	12.48
1	Shoe	0.43	0.00	0.43

COMMENTS

Mixed & pumped 297bbls (783sx) Lead "G" cmt., followed by 31bbls (148sx) Tail "G" cmt.
Displace with rig pump 314bbls mud, bump w/ 2000psi, close in mud pump lo-torque, open Howco lo-torque
& press. up to 2800psi for 10 min., good test, bleed back 3bbls mud, float holding
Good cmt. Job & slurry wt's w/ full returns.
Pre-flush water to surface w/ a trace of cement

CASING AND CEMENTING REPORT

WELL: Glenaire 01 ST 01 **SUPERVISOR:** #N/A **DATE:** 9/09/2006

CASING DETAILS

Size (")	7	Weight (ppf)	29	Grade	L-80	Landed depth (mRT)	2998.0	Av. Length	11.80	Collapse (psi)	7020	Burst (psi)	8160
Joints on location	261	No. of joints run	254	Joints in shoe track	1	Float shoe (Y/N)	Y	Float collar (Y/N)	Y				
Final displ. (psi)	#N/A	Buoyed wt. (kLb)	#N/A	Set weight (kLb)	#N/A	Displ. (Bbls)	104	Coupling	BTC				

PRE JOB CIRCULATION

Pump 1 (spm)	110	Pump 2 (spm)		Pressure	200	Time (mins)	60	Vol. Pumped (Bbls)	330	Mud wt (ppg)	#N/A

PRE-FLUSH

Volume (Bbls)	80	Wt(ppg)	8.33	Hyd. Loss (psi)	#N/A	**Additives:**	Water	Kg			Kg

TAIL SLURRY

Wt(ppg)	15.8	Class	G	Volume (Bbls)	20	Yield	1.17	Sacks	100	Water (g/sx)	5.21	Water (Bbls)	12	Design top	2800		
OH/Cal	OH	Excess (%)	30	Hole size (")	8.5	Mix (bpm)	5	Mix (psi)	180	Start	23:50	Finish	00:45				

Additives:									
	%		0.3	gals	NF-6 / 10bbls MF		lb	
	%			gals			lb	

LEAD SLURRY

Wt(ppg)	12.5	Class	G	Volume (Bbls)	158	Yield	2.13	Sacks	415	Water (g/sx)	12.42	Water (Bbls)	123	Design top	1175		
OH/Cal	OH	Excess (%)	30	Hole size (")	8.5	Mix (bpm)	5	Mix (psi)	120	Start	23:15	Finish	23:45				

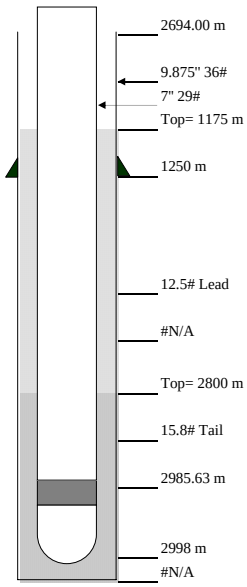
Additives:									
	%		0.3	gals	NF-6 / 10bbls MF		lb	
	%		20.0	gals	Econolite		lb	

DISPLACEMENT

Fluid type	Water	Wt	8.33	Calculated (Bbls)	36	Pumped (Bbls)	150	Bump pressure (psi)	1300	Used (Rig/Unit)	Haliburton						
Time: Start	00:20	Finish	00:45	Returns (%)	100	Top plug (Y/N)	Y	Bottom plug (Y/N)	Y	Floats held (Y/N)	Y						
Pressure (psi)	Initial	120	final	170	max		min		**Rate (bpm)**	Initial	6	final	3	max		min	

LOT / FIT

OMW (ppg)	8.70	FIT (ppg)	8.70	FIT Pressure (psi)	0	Test pressure (psi)	180	EMW (ppg)	9.05		



CASING RUN LIST

QTY	DESCRIPTION	LENGTH	FROM	TO
1	Landing Jnt	6.58	2991.42	2998.00
26	Jnt's	285.44	2705.98	2991.42
1	Float Collar	0.37	2705.61	2705.98
1	Jnt.	11.16	2694.45	2705.61
1	Shoe	0.45	2694.00	2694.45

COMMENTS

CASING AND CEMENTING REPORT

WELL: Glenaire 01 ST 01 **SUPERVISOR:** #N/A **DATE:** 30/10/2006

CASING DETAILS

Size (")	4 1/2	Weight (ppf)	13.5	Grade	P-110	Landed depth (mRT)	3701.0	Av. Length	54.47	Collapse (psi)	10670	Burst (psi)	12410
Joints on location	68	No. of joints run	68	Joints in shoe track	2	Float shoe (Y/N)	Y	Float collar (Y/N)	Y				
Final displ. (psi)	#N/A	Buoyed wt. (kLb)	#N/A	Set weight (kLb)	#N/A	Displ. (Bbls)	60	Coupling	BTC				

PRE JOB CIRCULATION

Pump 1 (spm)	38	Pump 2 (spm)		Pressure	580	Time (mins)	210	Vol. Pumped (Bbls)	399	Mud wt (ppg)	#N/A

PRE-FLUSH

Volume (Bbls)	20	Wt(ppg)	13.00	Hyd. Loss (psi)	#N/A	**Additives:**	200	Kg	tuned spacer	2000	Kg	Barite

TAIL SLURRY

Wt(ppg)	15.6	Class	HTB	Volume (Bbls)	20	Yield	1.17	Sacks	95	Water (g/sx)	4.91	Water (Bbls)	11	Design top	3440		
OH/Cal	OH	Excess (%)	10	Hole size (")	6.4	Mix (bpm)	4	Mix (psi)	1468	Start	18:10	Finish	18:20				

Additives:								
	%	NF6 (5gal)	20.0	gals	Gascon	60	lb	Halad413
	%			gals	HR25 (18lbs)	24	lb	HR12

LEAD SLURRY

Wt(ppg)	13.5	Class	HTB	Volume (Bbls)	41	Yield	1.65	Sacks	140	Water (g/sx)	8.50	Water (Bbls)	28	Design top	2850		
OH/Cal	OH	Excess (%)	10	Hole size (")	6.4	Mix (bpm)	4	Mix (psi)	1468	Start	18:00	Finish	18:10				

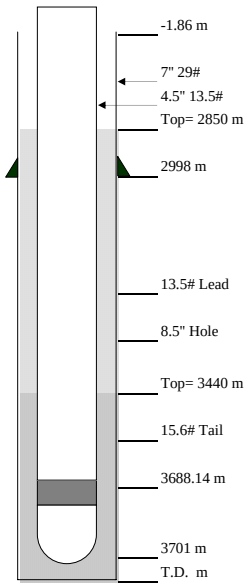
Additives:								
	%	HR25 (50lbs)	200.0	gals	Gascon	135	lb	Halad413
	%			gals	HR12 (70lbs)	35	lb	Halad344

DISPLACEMENT

Fluid type	Mud	Wt	12.60	Calculated (Bbls)	179	Pumped (Bbls)	101	Bump pressure (psi)	3000	Used (Rig/Unit)	Rig						
Time: Start	18:20	Finish	18:55	Returns (%)		Top plug (Y/N)	Y	Bottom plug (Y/N)	N	Floats held (Y/N)	Y						
Pressure (psi)	Initial	1400	final	3000	max	3000	min	1400	**Rate (bpm)**	Initial		final		max		min	

LOT / FIT

OMW (ppg)	9.50	FIT (ppg)	13.90	FIT Pressure (psi)	2778	Test pressure (psi)	2275	EMW (ppg)	13.10		



CASING RUN LIST

QTY	DESCRIPTION	LENGTH	FROM	TO
1	shoe	0.40	3700.60	3701.00
1	joint 4 1/2" tubing	12.45	3688.15	3700.60
1	float	0.01	3688.14	3688.15
66	joints 4 1/2" Tubing	802.08	2886.06	3688.14
1	hanger	8.07	2877.99	2886.06
100	stands 3 1/2" drillpipe	2879.85	-1.86	2877.99

COMMENTS

Mix & pump 42bbls lead @ 13.5ppg followed by 22bbls Tail @ 15.6ppg, (pumped 64bbls, only13bbls returned)
Displaced 101bbls, only 18bbls returned = 18%)
Plug bumped @ 1400psi, increase to 3000psi, good test, bleed back 1.25bbls, floats holding

CASING AND CEMENTING REPORT

WELL: Glenaire 01 ST 01 **SUPERVISOR:** #N/A **DATE:** 26/09/2006

CASING DETAILS

Size (")	2 7/8	Weight (ppf)	Lighter	Grade	L10	Landed depth (mRT)	2876.7	Av. Length	9.34	Collapse (psi)	#VALUE!	Burst (psi)	#VALUE!
Joints on location	308	No. of joints run	308	Joints in shoe track	1	Float shoe (Y/N)	Y	Float collar (Y/N)	Y				
Final displ. (psi)	#N/A	Buoyed wt. (kLb)	######	Set weight (kLb)	######	Displ. (Bbls)	#####	Coupling	LTC Buttress				

PRE JOB CIRCULATION

Pump 1 (spm)	80	Pump 2 (spm)	80	Pressure	600	Time (mins)	180	Vol. Pumped (Bbls)	1442	Mud wt (ppg)	#N/A

PRE-FLUSH

Volume (Bbls)	20	Wt(ppg)	8.60	Hyd. Loss (psi)	#N/A	**Additives:**	KCl	Kg	150		Kg

TAIL SLURRY

Wt(ppg)	15.8	Class	G	Volume (Bbls)	######	Yield	1.16	Sacks	######	Water (g/sx)	4.92	Water (Bbls)	#####	Design top	2800
OH/Cal	OH	Excess (%)	30	Hole size (")	8.5	Mix (bpm)	4	Mix (psi)	140	Start	0400	Finish	0409		

Additives:									
O.2	%	CFR3	5	gals	NF6	96	lb	HALAD413
O.1	%	HR12		gals		24	lb	HALAD344

LEAD SLURRY

Wt(ppg)	12.5	Class	G	Volume (Bbls)	-183	Yield	2.13	Sacks	#NUM!	Water (g/sx)	12.22	Water (Bbls)	#####	Design top	1150
OH/Cal	OH	Excess (%)	30	Hole size (")	8.5	Mix (bpm)	4.5	Mix (psi)	400	Start	0335	Finish	0400		

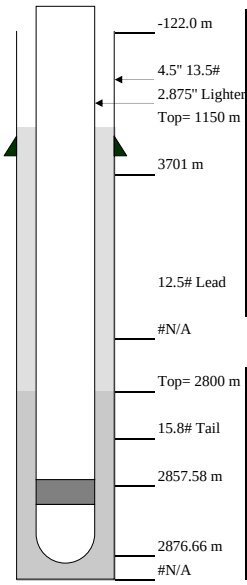
Additives:								
O.8	%	HR12	651	gals	GASCON469		lb	
	%			gals			lb	

DISPLACEMENT

Fluid type	MUD	Wt	9.40	Calculated (Bbls)	#####	Pumped (Bbls)	369.5	Bump pressure (psi)	N-A	Used (Rig/Unit)	RIG				
Time: Start	0415	Finish	0505	Returns (%)	100	Top plug (Y/N)	Y	Bottom plug (Y/N)	Y	Floats held (Y/N)	Y				
Pressure (psi)	Initial	0	final	1100	max	1500	min	0	**Rate (bpm)**	Initial	8	final	3	max	8	min	3

LOT / FIT

OMW (ppg)	9.50	FIT (ppg)	13.80	FIT Pressure (psi)	2110	Test pressure (psi)	2200	EMW (ppg)	13.98		



CASING RUN LIST

QTY	DESCRIPTION	LENGTH	FROM	TO
1	Howco Float shoe	0.41	2876.25	2876.66
1	Joint 7" x 29# L80 casing	11.65	2864.60	2876.25
1	Howco float collar	0.31	2864.29	2864.60
109	jts 7" x 29#L80 casing	1265.26	1599.03	2864.29
119	Jt 7" x 26#L80 casing	1430.59	168.44	1599.03
25	jts 7" x 29#L80 casing	290.43	-121.99	168.44

COMMENTS

PLUG DIDN'T BUMP. GOOD CIRCULATION THROUGHOUT CEMENT JOB

Schlumberger

Single shot Survey

Report Date:	October 19, 2006	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Beach Petroleun	Vertical Section Azimuth:	0.000°
Field:	Beach Petroleum	Vertical Section Origin:	N 0.000 m, E 0.000 m
Structure / Slot:	Glenaire / 1	TVD Reference Datum:	
Well:	Glenaire 1	TVD Reference Elevation:	0.0 m relative to MSL
Borehole:	Glenaire 1 ST1	Sea Bed / Ground Level Elevation:	0.000 m relative to MSL
UWI/API#:		Magnetic Declination:	9.855°
Survey Name / Date:	Glenaire 1 ST / October 18, 2006	Total Field Strength:	60481.725 nT
Tort / AHD / DDI / ERD ratio:	64.751° / 160.53 m / 4.534 / 0.046	Magnetic Dip:	-69.161°
Grid Coordinate System:	GDA94/MGA94 Zone 54	Declination Date:	October 18, 2006
Location Lat/Long:	S 37 34 47.033, E 140 59 52.253	Magnetic Declination Model:	BGGM 2004
Location Grid N/E Y/X:	N 5840813.000 m, E 499810.000 m	North Reference:	Grid North
Grid Convergence Angle:	+0.00131234°	Total Corr Mag North -> Grid North:	+9.854°
Grid Scale Factor:	0.99960000	Local Coordinates Referenced To:	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Vertical Section (m)	NS (m)	EW (m)	DLS (deg/30 m)	Tool Face (deg)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.74M
	48.00	0.50	34.74	48.00	0.17	0.17	0.12	0.31	-90.26M
	131.00	1.00	269.74	131.00	0.47	0.47	-0.40	0.49	-11.26M
	259.00	1.00	348.74	258.98	1.56	1.56	-1.73	0.30	29.74M
	400.00	1.25	29.74	399.96	4.10	4.10	-1.21	0.17	-110.26M
	544.00	0.75	249.74	543.95	5.14	5.14	-1.32	0.39	-50.26M
	690.00	0.50	309.74	689.94	5.21	5.21	-2.70	0.14	79.74M
	834.00	0.25	79.74	833.94	5.67	5.67	-2.88	0.14	69.74M
	978.00	1.00	69.74	977.93	6.16	6.16	-1.39	0.16	27.74M
	1094.00	1.75	27.74	1093.90	8.08	8.08	0.39	0.31	34.74M
	1200.00	1.50	34.74	1199.85	10.65	10.65	1.93	0.09	79.74M
	1362.00	1.00	79.74	1361.82	12.65	12.65	4.53	0.20	74.74M
	1507.00	0.75	74.74	1506.80	13.12	13.12	6.69	0.05	34.74M
	1652.00	2.25	34.74	1651.75	15.71	15.71	9.23	0.36	24.74M
	1767.00	3.00	24.74	1766.63	20.30	20.30	11.77	0.23	19.74M
	1854.00	3.25	19.74	1853.50	24.69	24.69	13.56	0.13	44.74M
	1999.00	3.75	44.74	1998.24	31.93	31.93	18.29	0.33	44.74M
	2142.00	4.25	44.74	2140.89	39.01	39.01	25.31	0.10	19.74M
	2288.00	5.00	19.74	2286.43	48.84	48.84	31.26	0.44	11.74M
	2374.00	6.00	11.74	2372.03	56.77	56.77	33.44	0.44	-128.40G
	2517.00	5.25	359.74	2514.35	70.63	70.63	34.94	0.29	-76.76G
	2633.00	6.50	334.74	2629.75	81.88	81.88	32.11	0.73	-107.63G
	2719.00	6.25	324.74	2715.22	90.10	90.10	27.33	0.40	-145.22G
	2805.00	5.25	316.74	2800.79	96.79	96.79	21.93	0.45	153.88G
	2893.00	4.75	319.74	2888.46	102.50	102.50	16.82	0.19	-35.26M
	2989.00	6.25	324.74	2984.01	109.81	109.81	11.23	0.49	71.19G
Tie-In	3020.00	6.75	334.74	3014.81	112.83	112.83	9.48	1.20	53.65G
	3054.28	7.67	343.28	3048.82	116.84	116.84	7.96	1.23	150.56G
	3082.26	4.78	5.89	3076.64	119.79	119.79	7.54	4.01	30.28M
	3104.18	2.52	30.28	3098.51	121.12	121.12	7.88	3.69	111.74M
	3120.27	2.04	111.74	3114.60	121.32	121.32	8.32	5.59	152.37M
	3148.67	2.72	152.37	3142.97	120.53	120.53	9.11	1.87	168.37M
	3177.31	3.53	168.37	3171.57	119.07	119.07	9.60	1.24	172.45M
	3206.34	1.00	172.45	3200.58	117.94	117.94	9.81	2.62	-9.07M
	3234.67	0.69	350.93	3228.90	117.86	117.86	9.82	1.79	-117.94M
	3249.34	0.92	242.06	3243.57	117.90	117.90	9.70	2.69	-127.73M

3263.57	1.48	232.27	3257.80	117.73	117.73	9.45	1.25	-131.40M
3282.64	2.60	228.60	3276.86	117.29	117.29	8.94	1.77	-100.85M
3292.43	1.86	259.15	3286.64	117.12	117.12	8.61	4.21	-136.40M
3311.56	2.89	223.60	3305.76	116.71	116.71	7.98	2.74	-132.29M
3321.13	2.66	227.71	3315.31	116.38	116.38	7.64	0.95	-103.02M
3341.07	1.99	256.98	3335.24	116.00	116.00	6.97	2.02	-84.31M
3349.72	1.86	275.69	3343.88	115.98	115.98	6.68	2.22	-127.23M
3370.03	3.00	232.77	3364.18	115.69	115.69	5.93	3.06	-115.16M
3378.51	2.48	244.84	3372.65	115.47	115.47	5.59	2.74	-155.55M
3398.34	3.21	204.45	3392.45	114.79	114.79	4.97	3.15	-148.42M
3407.21	2.92	211.58	3401.31	114.37	114.37	4.75	1.62	169.22M
3427.02	2.99	169.22	3421.10	113.43	113.43	4.58	3.23	157.28M
3464.60	1.56	157.28	3458.65	112.00	112.00	4.96	1.20	0.00M

Survey Type: Non-Def Survey

Survey Error Model: **SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	3020.00	Act-Stns	SLB_UNKNOWN (default tool used)	Glenaire 1 -> Glenaire 1
3020.00	3464.60	Act-Stns	SLB_UNKNOWN (default tool used)	Glenaire 1 ST1 -> Glenaire 1 ST

Pressure Report

GENERAL

Well:	Glenaire 1	Date:	29 Sept 2006	Drilling Day:	21
Interval	3002m - 3230m	Total Footage drilled		228 m	
TVD	2997.6m - 3223.2m	Change in Vertical Depth		225.6 m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP ft/hr
4	6.0"	REED	DSX519M	PDC	5x14	12.72	17.9

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	9.8	15	18	44	4	16

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	9.8 ppg
Pumps On - Pick up	2940 psi	EMW on Bottom	10.0 ppg
Pumps On - On Bottom	3150 psi	EMW on Bottom	10.6 ppg
Down hole motor	Yes	Flow Rate	260-265 gpm
Revolutions/Gallon	0.288	Local PRESSURE Gradient	8.59 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding and trace interbedded coal lenses

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3002m-3230m	60-80	-	-	3181	1318
				3230	574

CUTTINGS **(Size, Angularity, Sphericity):** predoinantly< 5 mm, mnr 5mm to 1mm, Sbfiss to fiss, Slightly elongated to very angular.

COMMENTS: Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

The rock cutting's within this section were indicative of a localised tectonic influence, evident by fractures encountered @ 3155m, 3182m & 3230m. Pick up and slack off weights and Torque were normal

However connection gases @ 3181m and 3230m were the only indication of an abnormal pressure influence. This could be explained in theory by the presence of a locally pressured gas zone with communication through the faults present. No signs of abnormally pressured formation were evident

DATA ENGINEER: Phil Rady

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	09 Oct 2006	Drilling Day:	30
Interval	3042m - 3083m	Total Footage drilled		41 m	
TVD	3037m - 3077m	Change in Vertical Depth		40 m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP ft/hr
6	6.0"	Security	NC46	TriCone	3x20	26.99	6.56

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	10.15	12	7	39	1	14

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	10.4 ppg
Pumps On - Pick up	2720 psi	EMW on Bottom	10.4 ppg
Pumps On - On Bottom	2930 psi	EMW on Bottom	11.0 ppg
Down hole motor	Yes	Flow Rate	252 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3042m-3083m	5-10	-	-		

CUTTINGS **(Size, Angularity, Sphericity):** predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS: Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Dmitriy Ilyin

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	10 Oct 2006	Days from Spud:	31
Interval	3083m-3119.22m	Total Footage drilled		36.22	
TVD	3077m-3113.81m	Change in Vertical Depth		36.81	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
6	6.0"	Security	NC46	TriCone	3x20	41	2

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	10.05	11	6	37	1	1

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.0 ppg
Pumps On - Pick up	2870 psi	EMW on Bottom	11.0 ppg
Pumps On - On Bottom	2996 psi	EMW on Bottom	11.4 ppg
Down hole motor	Yes	Flow Rate	252 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3119.22 m	1.5-6	-	-		

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Dmitriy Ilyin

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	13 Oct 2006	Days from Spud:	35
Interval	3119.22m-3127.67m	Total Footage drilled		8.45m	
TVD	3113.81m-3122.28m	Change in Vertical Depth		8.47m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
7	6.0"	SMITH PB	9348	TriCone	3x24	2.65	2

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	10.05	11	6	39	1	1

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.1 ppg
Pumps On - Pick up	2865 psi	EMW on Bottom	11.1 ppg
Pumps On - On Bottom	2942 psi	EMW on Bottom	11.5 ppg
Down hole motor	Yes	Flow Rate	250 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3127.67	5-15	3119	89		

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Dmitriy Ilyin

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	11 Oct 2006	Days from Spud:	36
Interval	3127.67m-3180m	Total Footage drilled		52.33m	
TVD	3122.28m-3174m	Change in Vertical Depth		51.72m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
7	6.0"	SMITH PB	9348	TriCone	3x24	24.72	2

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	10.3	10	5	36	1	3

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.3 ppg
Pumps On - Pick up	2970 psi	EMW on Bottom	11.3 ppg
Pumps On - On Bottom	3060 psi	EMW on Bottom	11.8 ppg
Down hole motor	Yes	Flow Rate	250 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3180 m	30-60				

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Dmitriy Ilyin

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	15 Oct 2006	Days from Spud:	37
Interval	3180m-3193m	Total Footage drilled		13m	
TVD	3174m-3186m	Change in Vertical Depth		12m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
8	6.0"	HYCALOG	DSX 516M/D1	PDC	5X15	0.45	25

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	10.55	10	5	36	1	3

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.5 ppg
Pumps On - Pick up	3080psi	EMW on Bottom	11.5 ppg
Pumps On - On Bottom	3189psi	EMW on Bottom	11.9 ppg
Down hole motor	Yes	Flow Rate	250 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3193m	20				

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Dmitriy Ilyin

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	16 Oct 2006	Days from Spud:	38
Interval	3193m-3207m	Total Footage drilled		14	
TVD	3186m-3201m	Change in Vertical Depth		15	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
8	6.0"	HYCALOG	DSX 516M/B1	PDC	5X15	0.97	25

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	10.55	10	5	36	1	3

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.5 ppg
Pumps On - Pick up	3080psi	EMW on Bottom	11.5 ppg
Pumps On - On Bottom	3189psi	EMW on Bottom	11.9 ppg
Down hole motor	Yes	Flow Rate	250 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3207	50				

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Dmitriy Ilyin

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	17 Oct 2006	Days from Spud:	39
Interval	3207m - 3267m	Total Footage drilled		60	
TVD	3201m - 3261.2m	Change in Vertical Depth		60	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
8	6.0"	HYCALOG	DSX 516M/B1	PDC	5X15	0.97	2

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.1	8	6	34	1	1

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.5 ppg
Pumps On - Pick up	2921psi	EMW on Bottom	11.5 ppg
Pumps On - On Bottom	3070psi	EMW on Bottom	11.9 ppg
Down hole motor	Yes	Flow Rate	250 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3207-3267	280-400				

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone. However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	18 Oct 2006	Days from Spud:	40
Interval	3267m - 3361m	Total Footage drilled		94m	
TVD	3261.2m - 3355.16m	Change in Vertical Depth		93.9 m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
8	6.0"	HYCALOG	DSX 516M/B1	PDC	5X15	33.9	5.9

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.2	10	8	36	1	2

CONNECTIONS

Overpull	40 k @ 3385m	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.7 ppg
Pumps On - Pick up	3920 psi	EMW on Bottom	11.7 ppg
Pumps On - On Bottom	3221 psi	EMW on Bottom	11.85 ppg
Down hole motor	Yes	Flow Rate	244 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3267m -3361 m	150-200			3279	4458
				3308	4570
				3336	4235
				3365	4426

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS: Drill and slide from 3267 m to 3385 m. Connection gas in range from 4235 to 4570 units At 3385 m pick up string for survey and 40 k overpull. Work the pipe and circulate. Bottoms up gas 4497 units.

.Using Dexp to acurately monitor overpressure relies on the presence of a clean Claystone.
However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	19 Oct 2006	Days from Spud:	41
Interval	3361m - 3418m	Total Footage drilled		57m	
TVD	3355.16m - 3412.07	Change in Vertical Depth		56.9 m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
8	6.0"	HYCALOG	DSX 516M/B1	PDC	5X15	50.3	5.3

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.3	10	9	35	1	2

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.7 ppg
Pumps On - Pick up	3165 psi	EMW on Bottom	11.75 ppg
Pumps On - On Bottom	3055 psi	EMW on Bottom	11.85 ppg
Down hole motor	Yes	Flow Rate	244 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3361m - 3418m	150-200	3386	4233	3394	4624

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Make a wiper trip to the shoe at 3386m. RIH and drill and slide to 3418m

At 3445m start losing mud at rate of 20 bbls/hr.

.Using Dexp to accurately monitor overpressure relies on the presence of a clean Claystone.
However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	20 Oct 2006	Days from Spud:	42
Interval	3418m - 3507m	Total Footage drilled		89m	
TVD	3412.07m - 3501.1m	Change in Vertical Depth		89m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
8	6.0"	HYCALOG	DSX 516M/B1	PDC	5X15	56.4	5.76

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.3	10	9	35	1	2

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.7 ppg
Pumps On - Pick up	3165 psi	EMW on Bottom	11.75 ppg
Pumps On - On Bottom	3255 psi	EMW on Bottom	11.9 ppg
Down hole motor	Yes	Flow Rate	244 gpm
Revolutions/Gallon	0.533	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with minor Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3418m-3507m	150-200			3422	2400
				3451	2585
				3480	2548

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Drill and slide from 3418m to 3507m. Circulate and POOH.

Remove MWD tool, put an axtra DC stand and RIH with the same bit.

.Using Dexp to accurately monitor overpressure relies on the presence of a clean Claystone.
However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	21 Oct 2006	Days from Spud:	43
Interval	3507m -3563m	Total Footage drilled		56m	
TVD	3501.1m - 3557.1m	Change in Vertical Depth		56m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
9 RR	6.0"	HYCALOG	DSX 516M/B1	PDC	5X15	12.7	4.48

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.2	11	9	36	1	2

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.3 ppg
Pumps On - Pick up	2900 psi	EMW on Bottom	11.6 ppg
Pumps On - On Bottom	2980 psi	EMW on Bottom	11.7 ppg
Down hole motor	No	Flow Rate	249 gpm
Revolutions/Gallon	0	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3507m - 3563m	75-150	3507	3162	3515m	1358
				Dmmy conn 3525m	2096
				Dmmy conn 3535m	1892
				3543m	3231

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS:

Drill 3507m to 3563m. Circulate and POOH.

.Using Dexp to accurately monitor overpressure relies on the presence of a clean Claystone.
However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	22 Oct 2006	Days from Spud:	44
Interval	3563m - 3572m	Total Footage drilled		9m	
TVD	3557m -3566m	Change in Vertical Depth		9m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
9RR	6.0"	HYCALOG	DSX 516M/B1	PDC	5x15	12.7	4.48

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
10	6.0"	HYCALOG	DSX 111	PDC	4x20,3x10	11.6	0.7

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.2	11	10	37	2	3

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.3 ppg
Pumps On - Pick up	2900 psi	EMW on Bottom	11.6 ppg
Pumps On - On Bottom	2980 psi	EMW on Bottom	11.7 ppg
Down hole motor	No	Flow Rate	246 gpm
Revolutions/Gallon	0	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3563m - 3572	50-75	3564	3610	Pumps off @3573m	2120

CUTTINGS **(Size, Angularity, Sphericity):** predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

COMMENTS: Drill 3564m. Circulate and POOH. Change the bit and RIH. Trip gas @3564 TG 3610 units. . Drill to 3572m.

.Using Dexp to accurately monitor overpressure relies on the presence of a clean Claystone.

However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

Pressure Report

GENERAL

Well:	Glenaire 1 ST 1	Date:	23 Oct 2006	Days from Spud:	45
Interval	3572m - 3612m	Total Footage drilled		40m	
TVD	3566m - 3606m	Change in Vertical Depth		40m	

BIT DATA

No.	size	Manufacturer	Model	Type	Jets	On Btm hrs	Av ROP m/hr
10	6.0"	HYCALOG	DSX 111	PDC	4x20,3x10	35.6	1.34

MUD DATA

Type	MW	PV	YP	FV	Gel, 10 sec,	10 min.
KCL-PHPA-POLYMER	11.2	12	12	37	3	2

CONNECTIONS

Overpull	Nil	Torque	Normal	Fill	Nil

PUMP PRESSURES

Pumps Off	0 psi	EMW on Bottom	11.3 ppg
Pumps On - Pick up	2980psi	EMW on Bottom	11.6 ppg
Pumps On - On Bottom	3080psi	EMW on Bottom	11.7 ppg
Down hole motor	No	Flow Rate	246 gpm
Revolutions/Gallon	0	Local PRESSURE Gradient	9.6 ppg

GEOLOGY

Current Formation	Silty Claystone with Sandstone interbedding.

GAS DATA

Background Gas		Trip Gas		Connection Gas	
Depth	Gas Units	Depth	Gas Units	Depth	Gas Units
3572m - 3612m	50-75			3573m	2120
				3601m	3010

CUTTINGS

(Size, Angularity, Sphericity): predoinantly< 5 mm, com bloky, slightly elongated, slightly angular i/p.

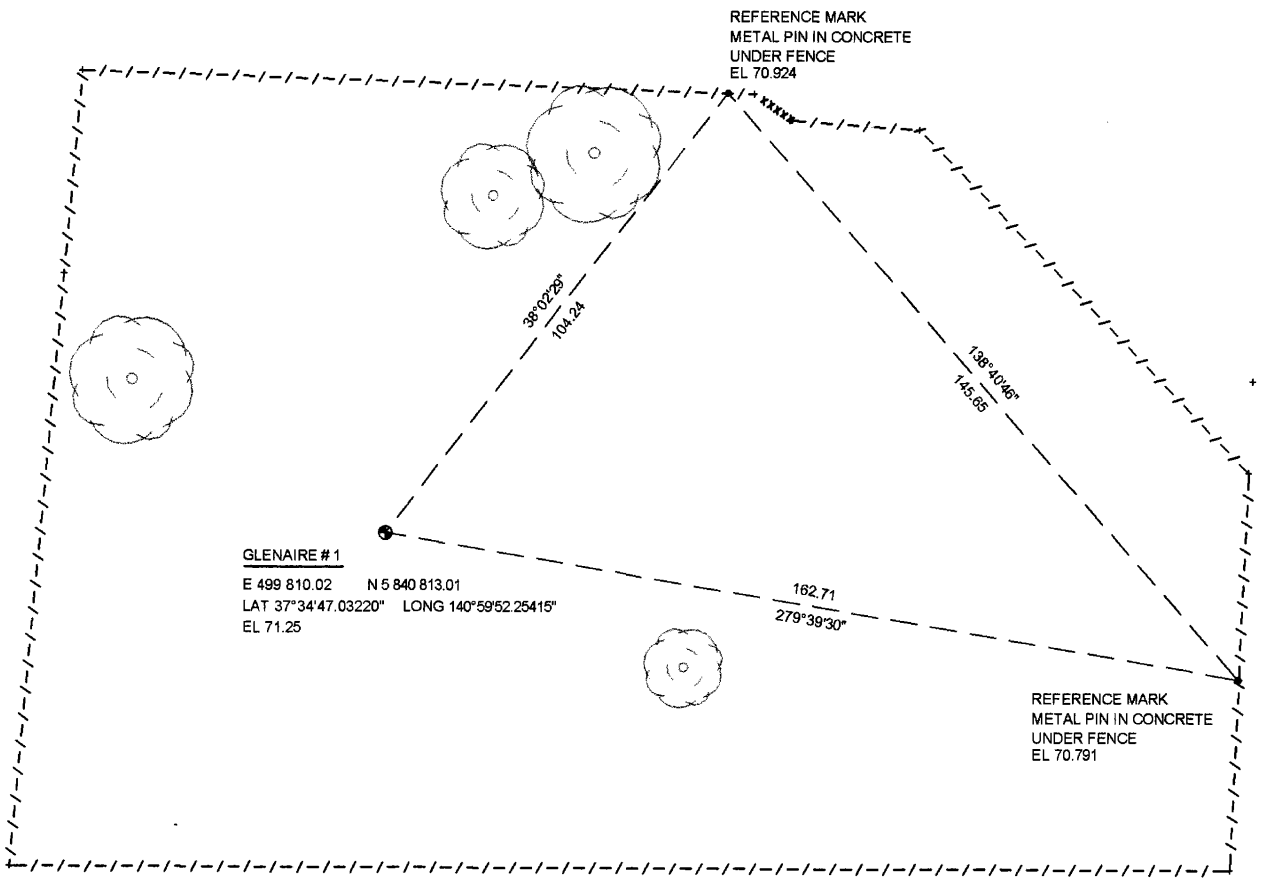
COMMENTS: Drill from 3572m to 3612m.

.Using Dexp to accurately monitor overpressure relies on the presence of a clean Claystone.
However within nonuniform lithology which was present in this section, Dexp was used as an indicator in conjunction with the above parameters.

DATA ENGINEER: Boris Beranek

LOCATION SURVEY

GLENAIRE # 1



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LEGEND

MN	DENOTES	BOREHOLE
MP	DENOTES	METAL PIN
SPK	DENOTES	SPIKE
PM	DENOTES	PERMANENT MARK
FD	DENOTES	FOUND
CT	DENOTES	CERTIFICATE OF TITLE
—/—/—	DENOTES	FENCE
xxxxxxxx	DENOTES	GATE

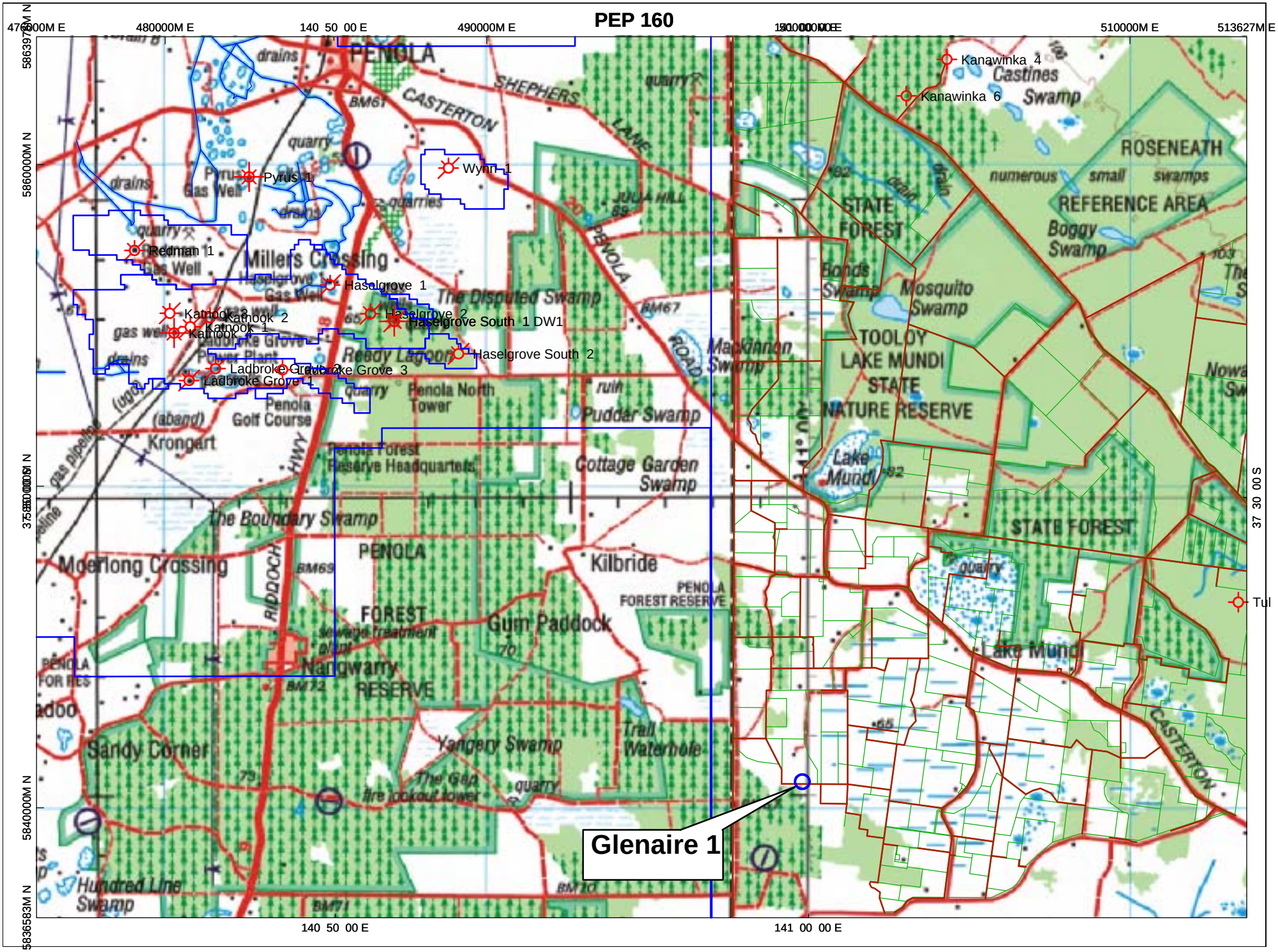
0 10 20 30 40 50

SCALE 1: 1000 METRES
AT ORIGINAL SHEET SIZE A3

LICENSED SURVEYOR 4/4/07

REFERENCE G001106.10
DWG No G001106.10bore.dwg
FIELD BOOK 527/54
LJM 17/4/07

PEP 160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37 30 00 S
141 00 00 E
Kanawinka 4
Kanawinka 6
Castines Swamp
ROSENEATH
numerous small swamps
REFERENCE AREA
Boggy Swamp
STATE FOREST
Bonds Swamp
Mosquito Swamp
TOOLOY
LAKE MUNDI
STATE
NATURE RESERVE
Lake Mundi
STATE FOREST
Lake Mundi
Tul
PENOLA
CASTERTON
SHEPHERS LANE
Wynn 1
Pyrus 1
Pyrus Gas Well
Redman 1
Gas Well
Millers Crossing
Haselgrove 1
Haselgrove 2
Haselgrove South 1 DW1
Haselgrove South 2
Katnook 3
Katnook 2
Katnook 1
Katnook 4
Ladbroke Grove 2
Ladbroke Grove 3
Ladbroke Grove 1
The Disputed Swamp
Reedy Lagoon
Penola North Tower
Penola Golf Course
Krongart
Penola Forest Reserve Headquarters
Cottage Garden Swamp
Puddar Swamp
Mackinnon Swamp
The Boundary Swamp
Moorlong Crossing
PENOLA
Kilbride
PENOLA FOREST RESERVE
FOREST
Gum Paddock
Nangwarry RESERVE
Sandy Corner
Yangery Swamp
Trail Waterhole
The Gap
fire lookout tower
Hundred Line Swamp
Glenaire 1
140 50 00 E
141 00 00 E

Depth (ROP avg)	%	Lithology	Gas
Depth m/hr		**Glenaire-1 spudded 0800 Hrs 08/09/06. 340mm casing shoe set at 303.5m, samples described below 307m.**	TG u %
310 (18)	100	SILTY CLAYSTONE, medium dark brown, moderately carbonaceous, trace fine black coaly detritus, trace pyrite, very soft, non fissile, sticky.	Nil
320 (14)	80 20	SANDSTONE, off white to light grey, silty to very coarse, dominantly very fine, subangular to rounded, very poorly sorted, very weak silica cement, abundant white argillaceous and silt matrix – matrix supported, friable, poor visual porosity. SILTSTONE, off white, very argillaceous, trace micromica, soft, non fissile.	Nil
330 (28)	100	SILTY CLAYSTONE, dark brown, common to abundant dispersed very fine to very coarse quartz sand grains often with brown staining, moderately carbonaceous, trace pyrite, rare glauconite, trace fossil fragments, soft, non fissile.	Nil
340 (27)	100	SILTY CLAYSTONE, dark brown, common dispersed very fine to very coarse quartz sand grains often with brown staining, moderately carbonaceous, trace pyrite, rare glauconite, trace fossil fragments, soft, non fissile.	Nil
350 (24)	100	SILTY CLAYSTONE, as above.	Nil
360 (22)	100	SILTY CLAYSTONE, dark brown, trace dispersed very fine to very coarse quartz sand grains often with brown staining, moderately carbonaceous, trace pyrite, rare glauconite, soft, non fissile.	Nil
370 (23)	100	SILTY CLAYSTONE, as above.	Nil
380 (22)	100	SILTY CLAYSTONE, medium to dark brown to ark grey, abundant dispersed very fine to very coarse quartz sand grains often with brown staining, moderately carbonaceous, trace pyrite, rare glauconite, common fossil fragments, soft, non fissile.	Nil
390 (35)	80 20	SANDSTONE, light brown, very fine to pebble, dominantly coarse, subangular to rounded, very poorly sorted, weak silica cement, common to abundant dark brown argillaceous matrix, opaque to milky quartz grains often with brown staining, trace pyrite, unconsolidated to friable, good inferred porosity, no oil fluorescence. SILTY CLAYSTONE, as above.	Nil
400 (48)	100	SANDSTONE, light brown, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, weak silica cement, common dark brown argillaceous matrix, opaque to milky quartz grains often with brown staining, trace pyrite, unconsolidated to friable, good inferred porosity, no oil fluorescence.	Nil
410 (100)	100	SANDSTONE, light brown, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, weak silica cement, common dark brown argillaceous matrix, opaque to milky quartz grains often with brown staining, trace pyrite, unconsolidated to friable, very good inferred porosity, no oil fluorescence.	Nil
420 (70)	100	SANDSTONE, as above.	Nil
430 (50)	100	SANDSTONE, as above.	Nil
440 (180)	100	SANDSTONE, light brown, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains often with brown staining, trace pyrite, unconsolidated to friable, very good inferred porosity, no oil fluorescence.	Nil
450 (90)	100	SANDSTONE, light brown, very fine to pebble, dominantly coarse to very coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace pyrite, friable, very good inferred porosity, no oil fluorescence.	Nil
460 (100)	100	SANDSTONE, as above.	Nil
470 (85)	100	SANDSTONE, as above.	Nil

Depth (ROP avg)	%	Lithology	Gas
480 (80)	100	SANDSTONE, as above.	Nil
490 (75)	100	SANDSTONE, as above.	Nil
500 (55)	100 Trace	SANDSTONE, light brown, very fine to occasionally pebble, dominantly coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace pyrite, friable, very good inferred porosity, no oil fluorescence. SILTSTONE, medium brown, very argillaceous, trace very fine off white altered feldspar grains, trace medium brown cryptocrystalline dolomite, trace black carbonaceous flecks, trace pyrite, trace micromica, soft, very dispersive, non fissile.	Nil
510 (50)	100 Trace	SANDSTONE, as above. SILTSTONE, as above.	Nil
520 (50)	100 Trace	SANDSTONE, as above. SILTSTONE, as above.	Nil
530 (55)	100	SANDSTONE, light brown, very fine to very coarse, dominantly medium to coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace pyrite, friable, very good inferred porosity, no oil fluorescence.	Nil
540 (50)	100	SANDSTONE, as above.	Nil
550 (30)	100 Trace	SANDSTONE, light brown, very fine to very coarse, dominantly medium to coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace green and red lithics, trace pyrite, friable, very good inferred porosity, no oil fluorescence. SILTSTONE, medium brown, very argillaceous, trace very fine off white altered feldspar grains, trace medium brown cryptocrystalline dolomite, trace black carbonaceous flecks, trace pyrite, trace micromica, soft, very dispersive, non fissile.	Nil
560 (85)	100 Trace	SANDSTONE, as above. SILTSTONE, as above.	Nil
570 (50)	95 5	SANDSTONE, as above. SILTSTONE, as above.	Nil
580 (55)	100	SANDSTONE, as above.	Nil
590 (45)	90 10	SANDSTONE, light brown, very fine to pebble, dominantly coarse, subangular to rounded, very poorly sorted, weak silica cement, trace dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace green and red lithics, trace pyrite, friable, very good inferred porosity, no oil fluorescence. SILTSTONE, as above.	Nil
600 (35)	100	SANDSTONE, light brown, very fine to pebble, dominantly very coarse, subangular to rounded, very poorly sorted, weak silica cement, trace light to dark brown argillaceous matrix, opaque to milky quartz grains occasionally with yellow to brown staining, trace green and red lithics, trace pyrite, friable, very good inferred porosity, no oil fluorescence.	Nil
610 (28)	95 5	SANDSTONE, as above. SILTSTONE, medium brown, very argillaceous, trace very fine off white altered feldspar grains, trace medium brown cryptocrystalline dolomite, trace black carbonaceous flecks, trace pyrite, rare glauconite, trace micromica, soft, very dispersive, non fissile.	Nil

Depth (ROP avg)	%	Lithology	Gas
620 (46)	10 10 80	SANDSTONE, as above. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, weak silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey brown red and black volcanogenic lithics, rare pyrite, trace black carbonaceous detritus, friable, no visual porosity, no oil fluorescence. SILTY CLAYSTONE, off white to light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile.	Nil
630 (47)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, weak silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, friable, no visual porosity, no oil fluorescence.	Nil
640 (55)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	Nil
650 (50)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	Nil
660 (50)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	Nil
670 (65)	100	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey to medium brown, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile.	Nil
680 (55)	100	SILTY CLAYSTONE, light to medium grey to light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile.	Nil
690 (48)	100 Trace	SILTY SANDSTONE, as above. SANDSTONE, as above.	Nil
700 (70)	100	SILTY CLAYSTONE, as above.	Nil
710 (95)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, light green grey, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, weak silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, trace brown mica flakes, trace pyrite, trace black carbonaceous detritus, friable, no visual porosity, no oil fluorescence.	Nil
720 (50)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, very weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common to abundant green grey brown red and black volcanogenic lithics, trace quartz grains, trace brown mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	Nil
730 (60)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	Nil
740 (65)	100 Trace	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile. SANDSTONE, as above.	0.1 (100:0:0:0:0)
750 (40	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)

Depth (ROP avg)	%	Lithology	Gas
760 (40)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, light green grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey brown red and black volcanogenic lithics, trace quartz grains, trace brown mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	0.1 (100:0:0:0:0)
770 (38)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
780 (40)	100	SILTY CLAYSTONE, as above.	0.1 (100:0:0:0:0)
790 (38)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
800 (36)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey brown red and black volcanogenic lithics, trace quartz grains, trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	0.1 (100:0:0:0:0)
810 (65)	20 80	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
820 (45)	70 30	SILTY CLAYSTONE, off white to light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile. SANDSTONE, as above.	0.2 (100:0:0:0:0)
830 (65)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
840 (43)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
850 (43)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
860 (40)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
870 (55)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	Nil
880 (60)	70 30	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains, trace black carbonaceous flecks, trace micromica, soft, non fissile. SANDSTONE, as above.	Nil
890 (40)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey brown and red volcanogenic lithics, trace quartz grains, trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	0.1 (100:0:0:0:0)
900 (55)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	Nil
910 (43)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	0.1 (100:0:0:0:0)
920 (37)	90 10	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, as above.	0.7 (100:0:0:0:0)
930 (35)	100	SILTY CLAYSTONE, as above.	0.9 (100:0:0:0:0)
940 (50)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1.8 (100:0:0:0:0)
950 (33)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	2.2 (100:0:0:0:0)

Depth (ROP avg)	%	Lithology	Gas
960 (35)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	3.2 (100:0:0:0:0)
970 (33)	100	SILTY CLAYSTONE, as above.	3.5 (100:0:0:0:0)
980 (40)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	5.5 (100:0:0:0:0)
990 (25)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	5.4 (100:0:0:0:0)
1000 (28)	90 10	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, trace micromica, common pyrite, soft, non fissile. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	7.4 (100:0:0:0:0)
1010 (32)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	6.2 (100:0:0:0:0)
1020 (35)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	14.1 (100:0:0:0:0)
1030 (32)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	7.8 (100:0:0:0:0)
1040 (35)	100	SILTY CLAYSTONE, as above.	9.1 (100:0:0:0:0)
1050 (35)	100	SILTY CLAYSTONE, as above.	8.4 (100:0:0:0:0)
1060 (43)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	7.6 (100:0:0:0:0)
1070 (35)	70 30	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, trace pyrite, soft, non fissile. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, trace brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	23.7 (100:0:0:0:0)
1080 (25)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	13.1 (100:0:0:0:0)
1090 (23)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	11.7 (95:0:0:0:0)
1100 (25)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	12.0 (97:2:1:0:0)
1110 (23)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	9.7 (97:2:1:0:0)
1120 (18)	70 30	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, slightly calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace micromica, trace pyrite, soft, non fissile. SANDSTONE, light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, trace weak calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace pyrite, trace black carbonaceous detritus, friable to moderately hard, no visual porosity, no oil fluorescence.	6.6 (94:5:1:0:0)
1130 (23)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	9.9 (95:3:2:0:0)

Depth (ROP avg)	%	Lithology	Gas
1140 (18)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	8.5 (96:3:1:0:0)
1150 (15)	100 Trace	SILTY CLAYSTONE, light to medium brown grey to light to medium green grey, trace to common very fine altered feldspar grains, slightly calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, as above.	12 (97:2:1:0:0)
1160 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	9.8 (97:2:1:0:0)
1170 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	20.1 (97:2:1:0:0)
1180 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	7.5 (99:1:0:0:0)
1190 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	10.1 (99:1:0:0:0)
1200 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19.6 (99:1:tr:0:0)
1210 (13)	100 Trace	SILTY CLAYSTONE, off white to light to medium brown grey to light to medium green grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, as above.	16 (99:1:tr:0:0)
1220 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	15.4 (96:3:1:tr:0)
1230 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	14.4 (98:1:tr:tr:0)
1240 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	15.5 (98:1:tr:tr:0)
1250 (11)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	12 (98:1:tr:tr:0)
1255 (9)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	12 (98:1:tr:tr:0)
1270 (16)	90 10	SILTY CLAYSTONE, off white to light to medium brown grey to light to medium green grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	32.7 (95:3:1:1:0)
1280 (24)	30 70	SILTY CLAYSTONE, off white to light to medium brown grey to light to medium green grey, common to abundant very fine altered feldspar grains, trace black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, off white to light green grey, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	45.8 (96:2:1:1:0)
1290 (28)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31.2 (96:2:1:1:0)

Depth (ROP avg)	%	Lithology	Gas
1300 (22)	80 20	SILTY CLAYSTONE, off white to light to medium brown grey to light to medium green grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	51 (96:2:1:1:0)
1310 (25)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	23.8 (96:2:1:1:0)
1320 (30)	90 10	SILTY CLAYSTONE, off white to light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, soft, non fissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	30.9 (96:2:1:1:0)
1330 (42)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, trace weak calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	38.2 (96:2:1:1:0)
1340 (60)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	37.6 (97:2:tr:tr:0)
1350 (55)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	27.6 (98:1:tr:tr:0)
1360 (60)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31.7 (97:2:tr:tr:0)
1370 (55)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, trace weak calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	39.2 (97:2:1:tr:0)
1380 (50)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40.4 (97:2:1:tr:0)
1390 (45)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	39.4
1400 (50)	70 30	SILTY CLAYSTONE, off white to light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, off white to light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	37.4 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1410 (45)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	42.4 (97:2:1:tr:tr)
1420 (55)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	36.1 (97:2:1:tr:tr)
1430 (53)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46.8 (97:2:1:tr:0)
1440 (55)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46.8 (97:2:1:tr:0)
1450 (60)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	76.2 (97:2:1:tr:0)
1460 (57)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34.4 (97:2:1:tr:0)
1470 (48)	90 10	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, as above.	50.9 (97:2:1:tr:0)
1480 (45)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	49.4 (97:2:1:tr:0)
1490 (60)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50.9 (97:2:1:tr:tr)
1500 (62)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, as above.	45.4 (97:2:1:tr:tr)
1510 (40)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	65.0 (97:2:1:tr:tr)
1520 (52)	80 20	SILTY CLAYSTONE, light to medium green grey to light to medium brown, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, as above.	89.2 (95:3:1:1:tr)
1530 (33)	70 30	SILTY CLAYSTONE, light to medium green grey to light to medium brown, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, as above.	77.0 (97:2:1:tr:tr)
1540 (52)	20 80	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, common quartz grains, rare pyrite, trace black carbonaceous detritus, common coarse crystalline vein quartz, moderately hard, no visual intergranular porosity, no oil fluorescence.	69.5 (96:2:1:tr:tr)
1550 (60)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	120.8 (96:2:1:tr:tr)
1560 (40)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	120.0 (96:2:1:tr:tr)
1570 (65)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	78.2 (96:2:1:tr:tr)
1580 (70)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	83.2 (96:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1590 (45)	70 30	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and common coaly detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black coaly detritus, moderately hard, no visual porosity, no oil fluorescence.	136 (95:3:1:tr:tr)
1600 (55)	90 10	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, soft to firm, non fissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	155 (95:3:1:tr:tr)
1610 (53)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	75.2 (95:3:1:tr:tr)
1620 (40)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	80.5 (95:3:1:tr:tr)
1630 (37)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	98.4 (95:3:1:tr:tr)
1640 (37)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	90.0 (95:3:1:tr:tr)
1650 (54)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	107 (95:3:1:tr:tr)
1660 (55)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	164 (95:3:1:tr:tr)
1670 (37)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	254 (95:3:1:tr:tr)
1680 (30)	80 20 Trace Fluor	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, common black carbonaceous flecks and coaly detritus, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black coaly detritus, moderately hard, no visual porosity, no oil fluorescence. COAL, (detrital) black, earthy to subvitreous luster, platy fracture, very argillaceous in part, moderately hard, brittle. FLUORESCENCE: The coal has no fluorescence but gives a very dull yellow crush cut.	160 (95:3:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1690 (20)	70 30	SILTY CLAYSTONE, light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, abundant green grey and common brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	118 (95:3:1:tr:tr)
1700 (17)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	154 (95:3:1:tr:tr)
1710 (15)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	125 (95:3:1:tr:tr)
1720 (22)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	149 (95:3:1:tr:tr)
1730 (18)	100 Trace Fluor	SILTY CLAYSTONE, off white to light to medium green grey to light to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, firm, subfissile. COAL, (detrital) black, earthy to subvitreous luster, platy fracture, very argillaceous in part, moderately hard, brittle. FLUORESCENCE: The coal has no fluorescence but gives a very dull yellow crush cut.	432 (95:3:1:tr:tr)
1740 (23)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	102 (95:3:1:tr:tr)
1750 (23)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	136 (95:3:1:tr:tr)
1760 (24)	20 80	SILTY CLAYSTONE, as above. SANDSTONE, as above.	138 (95:3:1:tr:tr)
1770 (22)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	105 (95:3:1:tr:tr)
1780 (26)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	109 (95:3:1:tr:tr)
1790 (14)	100 Trace	SILTY CLAYSTONE, off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, as above.	75.6 (96:3:1:tr:tr)
1800 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	192 (96:3:1:tr:tr)
1803 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	238 (96:3:1:tr:tr)
1806 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	75.0 (96:3:1:tr:tr)
1809 (21)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	78.7 (96:3:1:tr:tr)
1812 (20)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	86.1 (96:3:1:tr:tr)
1815 (14)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	59.6 (96:3:1:tr:tr)
1818 (23)	60 40 Trace Fluor	SILTY CLAYSTONE, off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, common black carbonaceous flecks and detritus, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	82.7 (96:3:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1821 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	153 (96:3:1:tr:tr)
1824 (15)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	66.8 (96:3:1:tr:tr)
1827 (16)	90 Trace 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	138 (96:3:1:tr:tr)
1830 (11)	100 Trace	SILTY CLAYSTONE, off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, as above.	112 (96:3:1:tr:tr)
1833 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46.4 (96:3:1:tr:tr)
1836 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	53.5 (96:3:1:tr:tr)
1839 (9)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	37.8 (96:3:1:tr:tr)
1842 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	76.6 (96:3:1:tr:tr)
1845 (18)	60 10 30 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, black to very dark brown grey, earthy to subvitreous, blocky to platy to subconchoidal fracture, very argillaceous in part, hard, brittle. FLUORESCENCE: The coal has no fluorescence but gives a weak dull yellow crush cut.	705 (96:3:1:tr:tr)
1848 (13)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	74 (96:3:1:tr:tr)
1851 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46.0 (96:3:1:tr:tr)
1854 (14)	90 10	SILTY CLAYSTONE, off white to medium green grey to medium brown grey, trace to common very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, trace micromica, rare pyrite, firm, subfissile. SANDSTONE, off white to light green grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	47.2 (96:3:1:tr:tr)
1857 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	77.4 (96:3:1:tr:tr)
1860 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	42.7 (96:3:1:tr:tr)
1863 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44.2 (96:3:1:tr:tr)
1866 (6)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	53.0 (96:3:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1869 (15)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	80.3 (96:3:1:tr:tr)
1872 (18)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	76.6 (96:3:1:tr:tr)
1875 (10)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	51.3 (96:3:1:tr:tr)
1878 (12)	70 30 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, black to very dark brown grey, earthy to subvitreous, blocky to platy to subconchoidal fracture, very argillaceous in part, hard, brittle. FLUORESCENCE: The coal has no fluorescence but gives a weak dull yellow crush cut.	103.6 (96:3:1:tr:tr)
1881 (15)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	39.4 (96:3:1:tr:tr)
1884 (20)	70 10 20 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	302 (96:3:1:tr:tr)
1887 (22)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	300 (97:2:1:tr:tr)
1890 (29)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	107 (97:2:1:tr:tr)
1893 (35)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	205 (97:2:1:tr:tr)
1896 (37)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	249 (97:2:1:tr:tr)
1899 (18)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	104 (97:2:1:tr:tr)
1902 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66.6 (97:2:1:tr:tr)
1905 (30)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to occasionally medium, dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	118 (97:2:1:tr:tr)
1908 (32)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	115 (97:2:1:tr:tr)
1911 (30)	70 30 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	220 (97:2:1:tr:tr)
1914 (39)	80 10 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, trace black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. COAL, as above. FLUORESCENCE, cut from coal as above.	394 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1917 (33)	80 10 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	327 (97:2:1:tr:tr)
1920 (48)	80 10 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	820 (97:2:1:tr:tr)
1923 (40)	80 10 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	795 (97:2:1:tr:tr)
1926 (30)	90 10 Trace Fluor	SILTY CLAYSTONE, off white to medium grey to medium brown grey to medium green grey, often common to abundant very fine altered feldspar grains, common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, trace to common micromica, rare pyrite, firm, subfissile. SANDSTONE, off white to light green grey, very fine to dominantly fine, subangular to subrounded, moderately sorted, moderate silica cement, weak to occasionally moderate calcareous cement, abundant off white argillaceous and silt matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence. COAL, as above. FLUORESCENCE, cut from coal as above.	121 (97:2:1:tr:tr)
1929 (27)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	424 (97:2:1:tr:tr)
1932 (25)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	260 (97:2:1:tr:tr)
1935 (34)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	404 (97:2:1:tr:tr)
1938 (33)	80 20 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	481 (97:2:1:tr:tr)
1941 (28)	80 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	201 (97:2:1:tr:tr)
1944 (35)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	224 (97:2:1:tr:tr)
1947 (28)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	445 (97:2:1:tr:tr)
1950 (45)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	923 (97:2:1:tr:tr)
1953 (44)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1128 (97:2:1:tr:tr)
1956 (31)	100 Trace Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	222 (97:2:1:tr:tr)
1959 (28)	100 Trace Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	220 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
1962 (25)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	410 (97:2:1:tr:tr)
1965 (23)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	196 (97:2:1:tr:tr)
1968 (32)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	169 (97:2:1:tr:tr)
1971 (30)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	192 (97:2:1:tr:tr)
1974 (25)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	197 (97:2:1:tr:tr)
1977 (41)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	192 (97:2:1:tr:tr)
1980 (45)	90 10	SILTY CLAYSTONE, off white to medium grey to medium brown to medium green grey, often common to abundant very fine altered feldspar grains, trace to common black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, common micromica, firm, subfissile. SANDSTONE, off white to light green grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica cement, weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, rare pyrite, common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	210 (97:2:1:tr:tr)
1983 (30)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	156 (97:2:1:tr:tr)
1986 (41)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	155 (97:2:1:tr:tr)
1989 (32)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	156 (97:2:1:tr:tr)
1992 (25)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	133 (97:2:1:tr:tr)
1995 (17)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	102 (97:2:1:tr:tr)
1998 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	96 (97:2:1:tr:tr)
2001 (17)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	149 (97:2:1:tr:tr)
2004 (20)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	150 (97:2:1:tr:tr)
2007 (21)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	91 (97:2:1:tr:tr)
2010 (18)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, off white to light green grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica cement, weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, rare pyrite, common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	80 (97:2:1:tr:tr)
2013 (19)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	93 (97:2:1:tr:tr)
2016 (15)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	97 (97:2:1:tr:tr)
2019 (18)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	74 (97:2:1:tr:tr)
2022 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	72 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
2025 (16)	80 20	SILTY CLAYSTONE, off white to medium green grey to medium brown grey, often common to abundant very fine altered feldspar grains, trace to common black carbonaceous flecks and fine detritus, common micromica, firm, subfissile. SANDSTONE, as above.	74 (97:2:1:tr:tr)
2028 (16)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	61 (97:2:1:tr:tr)
2031 (19)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	73 (97:2:1:tr:tr)
2034 (15)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	55 (97:2:1:tr:tr)
2037 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	60 (97:2:1:tr:tr)
2040 (14)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	57 (97:2:1:tr:tr)
2043 (19)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	69 (97:2:1:tr:tr)
2046 (13)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	51 (97:2:1:tr:tr)
2049 (13)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	59 (97:2:1:tr:tr)
2052 (13)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (97:2:1:tr:tr)
2055 (14)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	60 (97:2:1:tr:tr)
2058 (12)	70 30	SILTY CLAYSTONE, off white to medium brown grey to medium green grey, often common to abundant very fine altered feldspar grains, trace to common black carbonaceous flecks and fine detritus, common micromica, firm, subfissile. SANDSTONE, off white to light brown grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica cement, weak calcareous cement, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, rare pyrite, trace to common black carbonaceous detritus, moderately hard, no visual porosity, no oil fluorescence.	56 (97:2:1:tr:tr)
2061 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	91 (97:2:1:tr:tr)
2064 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	57 (97:2:1:tr:tr)
2067 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	55 (97:2:1:tr:tr)
2070 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	124 (97:2:1:tr:tr)
2073 (15)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	49 (97:2:1:tr:tr)
2076 (14)	90 10	SILTY CLAYSTONE, off white to medium grey to medium brown grey to medium green grey, often common to abundant very fine altered feldspar grains, trace to common black carbonaceous flecks and fine detritus, common micromica, firm, subfissile. SANDSTONE, as above.	49 (97:2:1:tr:tr)
2079 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43 (97:2:1:tr:tr)
2082 (11)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (97:2:1:tr:tr)
2085 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	42 (97:2:1:tr:tr)
2088 (14)	100 Trace	SILTY CLAYSTONE, light to medium brown grey to medium grey to medium green grey, common very fine altered feldspar grains in part, trace to common black carbonaceous flecks and fine detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	47 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
2091 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	53 (97:2:1:tr:tr)
2094 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	52 (97:2:1:tr:tr)
2097 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	56 (97:2:1:tr:tr)
2100 (20)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	57 (97:2:1:tr:tr)
2103 (20)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	59 (97:2:1:tr:tr)
2106 (25)	100 Trace	SILTY CLAYSTONE, light to medium brown grey to medium grey to medium green grey, common very fine altered feldspar grains in part, trace to common black carbonaceous flecks and fine detritus, common micromica, common crystalline calcite vein infill, moderately hard, subfissile. SANDSTONE, as above.	85 (97:2:1:tr:tr)
2109 (27)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	83 (97:2:1:tr:tr)
2112 (27)	100 Trace	SILTY CLAYSTONE, medium to dark brown grey to medium grey to medium green grey, trace very fine altered feldspar grains in part, moderately carbonaceous in part, trace black carbonaceous flecks and fine detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	75 (97:2:1:tr:tr)
2115 (32)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	88 (97:2:1:tr:tr)
2118 (34)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	94 (97:2:1:tr:tr)
2121 (32)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	82 (97:2:1:tr:tr)
2124 (29)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	67 (97:2:1:tr:tr)
2127 (24)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	81 (97:2:1:tr:tr)
2130 (21)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (97:2:1:tr:tr)
2133 (21)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	73 (97:2:1:tr:tr)
2136 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	84 (97:2:1:tr:tr)
2139 (17)	100 Trace	SILTY CLAYSTONE, medium to dark brown grey to occasionally medium grey to medium green grey, trace very fine altered feldspar grains in part, moderately carbonaceous in part, trace black carbonaceous flecks and fine detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	59 (97:2:1:tr:tr)
2142 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	62 (97:2:1:tr:tr)
2145 (15)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	53 (97:2:1:tr:tr)
2148 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	55 (97:2:1:tr:tr)
2151 (18)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	69 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
2154 (18)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (97:2:1:tr:tr)
2157 (27)	90 10	SILTY CLAYSTONE, medium brown grey to medium grey to medium green grey, trace very fine altered feldspar grains in part, trace black carbonaceous flecks and fine detritus, trace to common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	50 (97:2:1:tr:tr)
2160 (32)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (97:2:1:tr:tr)
2163 (35)	90 10	SILTY CLAYSTONE, medium brown grey to medium grey to medium green grey, trace very fine altered feldspar grains in part, trace black carbonaceous flecks and fine detritus, trace crystalline calcite veining, trace to common micromica, moderately hard, subfissile. SANDSTONE, as above.	69 (97:2:1:tr:tr)
2166 (39)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	67 (97:2:1:tr:tr)
2169 (34)	80 20	SILTY CLAYSTONE, medium brown grey to medium grey to medium green grey, trace very fine altered feldspar grains in part, trace black carbonaceous flecks and fine detritus, trace to common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace to common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	57 (97:2:1:tr:tr)
2172 (34)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (97:2:1:tr:tr)
2175 (34)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	55 (97:2:1:tr:tr)
2178 (38)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	124 (97:2:1:tr:tr)
2181 (35)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	75 (97:2:1:tr:tr)
2184 (30)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	61 (97:2:1:tr:tr)
2187 20)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (97:2:1:tr:tr)
2190 (24)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52 (97:2:1:tr:tr)
2193 (30)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	63 (97:2:1:tr:tr)
2196 (35)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	65 (97:2:1:tr:tr)
2199 (35)	60 40	SILTY CLAYSTONE, light to medium grey to medium brown grey to medium green grey, trace to common very fine altered feldspar grains in part, trace black carbonaceous flecks and fine detritus, trace to common micromica, moderately hard, subfissile. SANDSTONE, as above.	81 (97:2:1:tr:tr)
2202 (30)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	79 (97:2:1:tr:tr)
2205 (34)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	96 (97:2:1:tr:tr)
2208 (30)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	93 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
2211 (15)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (97:2:1:tr:tr)
2214 (15)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	49 (97:2:1:tr:tr)
2217 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	45 (97:2:1:tr:tr)
2220 (26)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52 (97:2:1:tr:tr)
2223 (26)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52 (97:2:1:tr:tr)
2226 (30)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	51 (97:2:1:tr:tr)
2229 (33)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	49 (97:2:1:tr:tr)
2232 (37)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	47 (97:2:1:tr:tr)
2235 (32)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46 (97:2:1:tr:tr)
2238 (33)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	49 (97:2:1:tr:tr)
2241 (32)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	51
2244 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43(97:2:1:tr:tr)
2247 (21)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	47 (97:2:1:tr:tr)
2250 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (97:2:1:tr:tr)
2253 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (97:2:1:tr:tr)
2256 (23)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (97:2:1:tr:tr)
2259 (22)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	53 (97:2:1:tr:tr)
2262 (24)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	73 (97:2:1:tr:tr)
2265 (22)	90 10	SILTY CLAYSTONE, light to medium brown grey to medium grey to medium green grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, trace to common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	55 (97:2:1:tr:tr)
2268 (23)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52 (97:2:1:tr:tr)
2271 (15)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44 (97:2:1:tr:tr)
2274 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43 (97:2:1:tr:tr)
2277 (18)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46 (97:2:1:tr:tr)
2280 (18)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	54 (97:2:1:tr:tr)

Depth (ROP avg)	%	Lithology	Gas
2283 (19)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey to medium green grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	52 (97:2:1:tr:tr)
2286 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44 (97:2:1:tr:tr)
2289 (11)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	39 (97:2:1:tr:tr)
2292 (8.5)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (97:2:1:tr:tr)
2295 (8.1)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (97:2:1:tr:tr)
2298 (8.0)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (97:2:1:tr:tr)
2301 (9)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (97:2:1:tr:tr)
2304 (14)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (97:2:1:tr:tr)
2307 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	27 (97:2:1:tr:tr)
2310 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	20 (96:2:1:1:tr)
2313 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (96:2:1:1:tr)
2316 (8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19 (96:2:1:1:tr)
2319 (12)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey to slightly medium green grey, often common very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, silty to very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace to common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	21 (96:2:1:1:tr)
2322 (15)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	21 (96:2:1:1:tr)
2325 (13)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (96:2:1:1:tr)
2328 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	41 (96:2:1:1:tr)
2331 (8)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (96:2:1:1:tr)
2334 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19 (96:2:1:1:tr)
2337 (9)	100 Trace	SILTY CLAYSTONE, medium grey to medium brown grey to slightly medium green grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	20 (96:2:1:1:tr)
2340 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	21 (96:2:1:1:tr)
2343 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	20 (94:2:2:2:tr)
2346 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19 (94:2:2:2:tr)

Depth (ROP avg)	%	Lithology	Gas
2349 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	27 (94:2:2:2:tr)
2352 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	18 (94:2:2:2:tr)
2355 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	21 (94:2:2:2:tr)
2358 (8)	80 20	SILTY CLAYSTONE, medium grey to medium brown grey to medium green grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	23 (94:2:2:2:tr)
2361 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (94:2:2:2:tr)
2364 (9)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	18 (95:2:2:1:tr)
2367 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, silty to very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	16 (95:2:2:1:tr)
2370 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	21 (95:2:2:1:tr)
2373 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	23 (95:2:2:1:tr)
2376 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (95:2:2:1:tr)
2379 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above. (95:2:2:1:tr)	21 (95:2:2:1:tr)
2382 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (95:2:2:1:tr)
2385 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (95:2:2:1:tr)
2388 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	14
2391 (21)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	9(95:2:2:1:tr)
2394 (25)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	12 (95:2:2:1:tr)
2397 (19)	80 20	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	20 (95:2:2:1:tr)
2400 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19 (95:2:2:1:tr)
2403 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	23 (95:2:2:1:tr)
2406 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (95:2:2:1:tr)
2409 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	18 (95:2:2:1:tr)

Depth (ROP avg)	%	Lithology	Gas
2412 (14)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	60 (95:2:2:1:tr)
2415 (10)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	21 (95:2:2:1:tr)
2418 (13)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	22 (95:2:2:1:tr)
2421 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	18 (95:2:2:1:tr)
2424 (19)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (95:2:2:1:tr)
2427 (17)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	65 (95:2:2:1:tr)
2430 (12)	80 20 Fluor	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and abundant detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, common black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. FLUORESCENCE, the carbonaceous/coaly detrital material has no fluorescence but gives a very weak dull yellow crush cut.	34 (95:2:2:1:tr)
2433 (14)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	23 (95:2:2:1:tr)
2436 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	22 (95:2:2:1:tr)
2439 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (95:2:2:1:tr)
2442 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (95:2:2:1:tr)
2445 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (95:2:2:1:tr)
2448 (15)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	26 (95:2:2:1:tr)
2451 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (95:2:2:1:tr)
2454 (13)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	23 (95:2:2:1:tr)
2457 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (95:2:2:1:tr)
2460 (14)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, trace medium brown cryptocrystalline dolomite, common micromica, moderately hard, subfissile. SANDSTONE, as above.	40 (95:2:2:1:tr)
2463 (11)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	28 (95:2:2:1:tr)
2466 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (95:2:2:1:tr)

Depth (ROP avg)	%	Lithology	Gas
2469 (6)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	25 (95:2:2:1:tr)
2472 (16)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (95:2:2:1:tr)
2475 (14)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	23 (95:2:2:1:tr)
2478 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (95:2:2:1:tr)
2481 (14)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	22 (95:2:2:1:tr)
2484 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (95:2:2:1:tr)
2487 (20)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (95:3:1:1:tr)
2490 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (95:3:1:1:tr)
2493 (19)	80 20	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and common detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	98 (95:3:1:1:tr)
2496 (16)	80 20	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	39 (95:3:1:1:tr)
2499 (16)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (95:3:1:1:tr)
2502 (18)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (95:3:1:1:tr)
2505 (24)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	30 (95:3:1:1:tr)
2508 (18)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (95:3:1:1:tr)
2511 (18)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (95:3:1:1:tr)
2514 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (95:3:1:1:tr)
2517 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	33 (95:3:1:1:tr)
2520 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (94:3:2:1:tr)
2523 (19)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, silty to very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	33 (94:3:2:1:tr)

Depth (ROP avg)	%	Lithology	Gas
2526 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (94:3:2:1:tr)
2529 (13)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (94:3:2:1:tr)
2532 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	27 (94:3:2:1:tr)
2535 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (94:3:2:1:tr)
2538 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (94:3:2:1:tr)
2541 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	22 (94:3:2:1:tr)
2544 (9)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19 (94:3:2:1:tr)
2547 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to occasionally fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	25 (92:3:3:1:1)
2550 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	29 (92:3:3:1:1)
2553 (13)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	24 (91:3:3:2:1)
2556 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (91:3:3:2:1)
2559 (11)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (91:3:3:2:1)
2562 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	22 (93:3:3:1:tr)
2565 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (93:3:3:1:tr)
2568 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	29 (93:3:3:1:tr)
2571 (16)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, dark brown and very carbonaceous in part, common very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	45 (93:3:3:1:tr)
2574 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (93:3:3:1:tr)
2577 (20)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey, common very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	28 (93:3:3:1:tr)
2580 (24)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (93:3:3:1:tr)
2583 (25)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, silty to very fine, rarely fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	35 (93:3:3:1:tr)
2586 (22)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (93:3:3:1:tr)
2589 (20)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (93:3:3:1:tr)
2592 (18)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (93:3:3:1:tr)

Depth (ROP avg)	%	Lithology	Gas
2595 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (93:3:3:1:tr)
2598 (21)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	36 (93:3:3:1:tr)
2601 (22)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	42 (93:3:3:1:tr)
2604 (22)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	63 (93:3:3:1:tr)
2607 (24)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46 (93:3:3:1:tr)
2610 (26)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (93:3:3:1:tr)
2613 (18)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey, abundant very fine altered feldspar grains in part, very silty, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	62 (93:3:3:1:tr)
2616 (17)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey, abundant very fine altered feldspar grains in part, very silty, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	38 (93:3:3:1:tr)
2619 (13)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (93:3:3:1:tr)
2622 (17)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (93:3:3:1:tr)
2625 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (93:3:3:1:tr)
2628 (15)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (93:3:3:1:tr)
2631 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (93:3:3:1:tr)
2634 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44 (93:3:3:1:tr)
2637 (17)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (93:3:3:1:tr)
2640 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (92:3:3:2:tr)
2643 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	45 (92:3:3:2:tr)
2646 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (92:3:3:2:tr)
2649 (14)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	30 (92:3:3:2:tr)
2652 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43 (92:3:3:2:tr)
2655 (24)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (93:3:2:2:tr)
2658 (19)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	36(93:3:2:2:tr)
2661 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	45 (93:3:2:2:tr)
2664 (21)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	49 (93:3:2:2:tr)
2667 (22)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40(93:3:2:2:tr) (93:3:2:2:tr)

Depth (ROP avg)	%	Lithology	Gas
2670 (16)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, dark brown grey and moderately argillaceous in part, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	28 (89:5:2:2:1)
2673 (18)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light grey, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	51 (89:5:2:2:1)
2676 (15)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (90:4:3:2:1)
2679 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (91:4:3:2:tr)
2682 (19)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52
2685 (12)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	33 (91:4:3:2:tr)
2688 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (91:4:3:2:tr)
2691 (14)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (91:4:3:2:tr)
2694 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43 (91:4:3:2:tr)
2697 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (92:4:3:1:tr)
2700 (10)	90 10	SILTY CLAYSTONE, light to medium grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and common coaly detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	94 (92:4:3:1:tr)
2703 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	27 (92:4:3:1:tr)
2706 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	79 (92:4:3:1:tr)
2709 (12)	100 Trace	SILTY CLAYSTONE, light to medium grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	29 (92:4:3:1:tr)
2712 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40 (92:4:3:1:tr)
2715 (19)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	49 (92:4:3:1:tr)
2718 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (92:4:3:1:tr)
2721 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	87 (90:4:4:2:tr)
2724 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40 (90:4:4:2:tr)
2727 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light grey, silty to rarely fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	40 (90:4:4:2:tr)

Depth (ROP avg)	%	Lithology	Gas
2730 (10)	100 Trace	SILTY CLAYSTONE, light to medium dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	52 (90:4:3:2:1)
2733 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	51
2736 (8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30(90:4:3:2:1)
2739 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	115 (90:4:3:2:1)
2742 (13)	100 Trace	SILTY CLAYSTONE, light to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	42 (90:4:3:2:1)
2745 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (90:4:3:2:1)
2748 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (90:4:3:2:1)
2751 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	85 (89:4:4:2:1)
2754 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (89:4:4:2:1)
2757 (12)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	36 (89:4:4:2:1)
2760 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43 (89:4:4:2:1)
2763 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (89:4:4:2:1)
2766 (10)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light grey, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, common green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	31 (89:4:4:2:1)
2769 (10)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (89::4:2:1)
2772 (13)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	36 (88:5:4:2:1)
2775 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	26 (88:5:4:2:1)
2778 (9)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (88:5:4:2:1)
2781 (15)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40 (89:4:4:2:1)
2784 (7)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (89:4:4:2:1)
2787 (6)	80 20	SILTY CLAYSTONE, light to dark grey to medium brown grey, often abundant very fine altered feldspar grains – grades to silty sandstone, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light grey, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	24 (89:4:4:2:1)
2790 (7)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	20 (88:5:5:2:tr)
2793 (8)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (88:5:5:2:tr)

Depth (ROP avg)	%	Lithology	Gas
2796 (11)	60 40	SILTY CLAYSTONE: as above. SANDSTONE, off white to light grey, silty to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	27 (88:5:5:2:tr)
2799 (8)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	29 (88:5:5:2:tr)
2802 (6)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (88:5:5:2:tr)
2805 (6)	10 90	SILTY CLAYSTONE: as above. SANDSTONE, off white to light grey, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	21 (88:5:5:2:tr)
2808 (10)	20 80	SILTY CLAYSTONE, as above. SANDSTONE, as above.	33 (89:5:4:2:tr)
2811 (13)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	36 (89:5:4:2:tr)
2814 (11)	90 10	SILTY CLAYSTONE, light to medium dark grey to medium brown grey, often abundant very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	30 (89:5:4:2:tr)
2817 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (89:5:4:2:tr)
2820 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (89:5:4:2:tr)
2820 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	32 (89:5:4:2:tr)
2826 (8)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (89:5:4:2:tr)
2829 (8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	34 (89:5:4:2:tr)
2832 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	56 (89:5:4:2:tr)
2835 (9)	100	SILTY CLAYSTONE, as above.	27 (89:5:4:2:tr)
2838 (7)	100	SILTY CLAYSTONE, as above.	28 (89:5:4:2:tr)
2841 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light grey, very fine, subangular to subrounded, moderately sorted, moderate silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	40 (87:5:5:2:1)
2844 (6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	43 (88:5:4:2:1)
2847 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (88:5:4:2:1)
2850 (13)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (88:5:4:2:1)
2853 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	22 (88:5:4:2:1)

Depth (ROP avg)	%	Lithology	Gas
2856 (13)	100 Trace	SILTY CLAYSTONE, light to medium dark grey to medium brown grey, medium brown in part, often abundant very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above	36 (89:5:4:2:tr)
2859 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (89:5:4:2:tr)
2862 (13)	100	SILTY CLAYSTONE, light to medium dark grey to medium brown grey, often abundant very fine altered feldspar grains, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.	35 (89:5:4:2:tr)
2865 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (89:5:4:2:tr)
2868 (6)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	35 (89:5:4:2:tr)
2871 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40 (89:5:4:2:tr)
2874 (12)	100 Trace	SILTY CLAYSTONE, light to medium dark grey to medium brown grey, often abundant very fine altered feldspar grains, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	50 (88:5:5:2:tr)
2877 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	27 (88:5:5:2:tr)
2880 (5)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (88:5:5:2:tr)
2883 (7)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light grey, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate to strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	28 (88:5:5:2:tr)
2886 (8)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	30 (88:5:5:2:tr)
2889 (6)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, as above.	24 (88:5:5:2:tr)
2892 (13)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (88:5:5:2:tr)
2895 (16)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	88 (86:7:5:2:tr)
2898 (13)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	45 (86:7:5:2:tr)
2901 (16)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (86:7:5:2:tr)
2904 (12)	100 Trace	SILTY CLAYSTONE, light to medium dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	42 (86:7:5:2:tr)
2907 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	40 (86:7:5:2:tr)
2910 (11)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	36 (86:7:5:2:tr)
2913 (12)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, as above.	50 (88:5:4:2:1)
2916 (15)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	54 (88:5:4:2:1)
2919 (9)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	39 (88:5:4:2:1)

Depth (ROP avg)	%	Lithology	Gas
2922 (24)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	64 (88:5:4:2:tr)
2925 (20)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	59 (88:5:4:2:tr)
2928 (26)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	72 (88:5:4:2:tr)
2931 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	152 (82:6:6:4:2)
2934 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	110 (82:6:6:4:2)
2937 (8)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	45 (82:6:6:4:2)
2940 (7)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	164 (77:7:8:5:3)
2943 (13)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	38 (77:7:8:5:3)
2946 (12)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44 (77:7:8:5:3)
2949 (13)	100 Trace	SILTY CLAYSTONE, light to dominantly medium dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, as above.	47 (77:7:8:5:3)
2952 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (77:7:8:5:3)
2955 (11)	100	SILTY CLAYSTONE, as above.	66 (77:7:8:5:3)
2958 (11)	100	SILTY CLAYSTONE, as above.	56 (84:6:6:3:1)
2961 (5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	87 (77:7:8:5:3)
2964 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	55 (77:7:8:5:3)
2967 (9)	100	SILTY CLAYSTONE, light to dominantly medium dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.	112 (77:7:8:5:3)
2970 (9)	100	SILTY CLAYSTONE, as above.	146 (77:7:8:5:3)
2973 (8)	100	SILTY CLAYSTONE, as above.	43 (77:7:8:5:3)
2976 (10)	100	SILTY CLAYSTONE, as above.	55 (77:7:8:5:3)
2979 (6)	100	SILTY CLAYSTONE, light to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.	52 (77:7:8:5:3)
2982 (6)	100	SILTY CLAYSTONE, as above.	46 (77:7:8:5:3)

Depth (ROP avg)	%	Lithology	Gas
2985 (6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52 (83:7:6:3:1)
2988 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	37
2991 (9)	100	SILTY CLAYSTONE, as above.	215 (77:8:9:4:2)
2994 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44 (77:8:9:4:2)
2997 (11)	100 Trace	SILTY CLAYSTONE, light to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile.	46 (77:8:9:4:2)
3000 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	73 (77:8:9:4:2)
3002 (17)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	66 (77:8:9:4:2)
3003 (15)	90 10	SILTY CLAYSTONE, light to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, moderately hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown and clear mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	65 (83:6:5:3:3)
3006 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	240 (83:6:5:3:3)
3009 (9)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	101 (83:6:5:3:3)
3012 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	81 (83:6:5:3:3)
3015 (17)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, grey black and very carbonaceous in part, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	105 (84:7:5:3:1)
3018 (24)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	109 (84:7:5:3:1)
3021 (30)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	99 (84:7:5:3:1)
3024 (26)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	99 (84:7:5:3:1)
3027 (27)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	103 (84:7:5:3:1)
3030 (30)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	76 (84:7:5:3:1)
3033 (23)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	83 (84:7:5:3:1)
3036 (30)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	120 (83:7:5:3:2)
3039 (25)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	113 (83:7:5:3:2)
3042 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	81 (83:7:5:3:2)

Depth (ROP avg)	%	Lithology	Gas
3045 (14)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	71 (83:7:5:3:2)
3048 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	91 (83:7:5:3:2)
3051 (11)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	77 (83:7:5:3:2)
3054 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	67 (83:7:5:3:2)
3057 (13)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	76 (83:7:5:3:2)
3060 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	69 (83:7:5:3:2)
3063 (13)	100	SILTY CLAYSTONE, as above.	98 (83:7:5:3:2)
3066 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	75 (83:7:5:3:2)
3069 (12)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (82:7:6:3:2)
3072 (21)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	105 (82:7:6:3:2)
3075 (13)	100	SILTY CLAYSTONE, as above.	68 (82:7:6:3:2)
3078 (9)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	68 (82:7:6:3:2)
3081 (6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	52 (82:7:6:3:2)
3084 (14)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, grey black and very carbonaceous in part, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	88 (80:8:8:3:1)
3087 (17)	100	SILTY CLAYSTONE, as above.	119 (80:8:8:3:1)
3090 (14)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	104 (80:8:8:3:1)
3093 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	87 (80:8:8:3:1)
3096 (14)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	77 (80:8:8:3:1)
3099 (17)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	75 (80:8:8:3:1)
3102 (23)	100	SILTY CLAYSTONE, as above.	97 (80:8:8:3:1)
3105 (6)	100	SILTY CLAYSTONE, as above.	69 (80:8:8:3:1)
3108 (22)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	51 (80:8:8:3:1)
3111 (30)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	116 (84:8:5:3:tr)
3114 (33)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	140 (84:8:5:3:tr)
3117 (50)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	180 (84:8:5:3:tr)

Depth (ROP avg)	%	Lithology	Gas
3120 (43)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	193 (83:8:6:2:1)
3123 (28)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	220 (83:8:6:2:1)
3126 (30)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	530 (83:8:6:2:1)
3129 (37)	80 20	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, slightly calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace vein calcite, common micromica, hard, subfissile. SANDSTONE, as above.	255 (83:8:6:2:1)
3132 (38)	70 30	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, slightly calcareous where arenaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	314 (79:8:7:4:1)
3135 (32)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	232 (79:8:7:4:1)
3138 (31)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	178 (79:8:7:4:1)
3141 (36)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	167 (79:8:7:4:1)
3144 (45)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	160 (82:8:6:3:1)
3147 (36)	50 50 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and very strong calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, black, subvitreous to vitreous, subconchoidal fracture, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	217 (82:8:6:3:1
3150 (54)	50 50 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, as above.	280 (70:10:11:6:3)
3153 (56)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, as above.	940 (70:10:11:6:3)
3156 (15)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4251 (70:10:11:6:3)
3159 (17)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	90 (70:10:11:6:3)
3162 (16)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	174 (77:9:8:4:2)
3165 (13)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, moderately calcareous where arenaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	165 (77:9:8:4:2)
3168 (14)	100	SILTY CLAYSTONE, as above.	155 (77:9:8:4:2)

Depth (ROP avg)	%	Lithology	Gas
3171 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, moderate silica and strong calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	249 (77:9:8:4:2)
3174 (20)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, moderately calcareous where arenaceous, trace black carbonaceous flecks and detritus, trace calcite veining, common micromica, hard, subfissile. SANDSTONE, as above.	89 (77:9:8:4:2)
3177 (21)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	89 (77:9:8:4:2)
3180 (25)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1172 (78:8:8:4:2)
3183 (27)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1424 (78:8:8:4:2)
3186 (28)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1300 (78:8:8:4:2)
3189 (33)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	240 (77:8:8:5:2)
3192 (28)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	133 (77:8:8:5:2)
3195 (30)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	121 (77:8:8:5:2)
3198 (43)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	138 (77:8:8:5:2)
3201 (40)	100	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and coaly detritus, trace calcite veining, common micromica, hard, subfissile.	170 (77:8:8:5:2)
3204 (44)	100	SILTY CLAYSTONE, as above.	150 (77:8:8:5:2)
3207 (54)	100	SILTY CLAYSTONE, as above.	300 (77:8:8:5:2)
3210 (45)	100	SILTY CLAYSTONE, as above.	296 (77:8:8:5:2)
3213 (38)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	578 (77:8:8:5:2)
3216 (34)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	284 (77:8:8:5:2)
3219 (37)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, moderate silica and strong calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	170 (77:8:8:5:2)
3222 (52)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	180 (77:8:8:5:2)
3225 (38)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	151 (77:8:8:5:2)
3228 (43)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	676 (77:9:8:4:2)
3231 (44)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	2766 (77:9:8:4:2)

Depth (ROP avg)	%	Lithology	Gas
3234 (5)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	206 (78:9:8:4:1)
3237 (5)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	95 (78:9:8:4:1)
3240 (4)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	288 (80:8:7:4:1)
3243 (5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	462 (79:8:7:4:2)
3246 (5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	56 (79:8:7:4:2)
3249 (5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	56 (79:8:7:4:2)
3252 (5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (75:8:8:6:3)
3255 (4)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	163 (75:8:8:6:3)
3258 (4)	90 Trace 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. CARBONACEOUS CLAYSTONE, grey black, earthy texture, blocky to platy fracture, trace micromica, moderately hard. FLUORESCENCE, the carbonaceous claystone has no fluorescence but gives a very weak dull yellow crush cut.	76 (81:7:6:4:2)
3261 (4)	90 10 Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. CARBONACEOUS CLAYSTONE, as above. FLUORESCENCE, as above.	68 (81:7:6:4:2)
3264 (5)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	83 (81:7:6:4:2)
3267 (4)	70 30	SILTY CLAYSTONE, medium to dark grey to medium brown grey, occasionally very dark grey and moderately carbonaceous, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	68 (81:7:6:4:2)
3270 (4)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	61 (81:7:6:4:2)
3273 (4)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	62 (78:8:7:5:2)
3276 (4)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	66 (78:8:7:5:2)
3279 (3)	100	SILTY CLAYSTONE, as above.	55 (78:8:7:5:2)
3282 (3)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	48 (78:8:7:5:2)
3285 (2)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	98 (78:8:7:5:2)

Depth (ROP avg)	%	Lithology	Gas
3288 (3.5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	59 (79:9:8:3:1)
3291 (2.5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	138 (79:9:8:3:1)
3294 (2.2)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, occasionally very dark grey and moderately carbonaceous, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common calcite and trace quartz lined fractures, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, common calcite and trace quartz lined fractures, hard, no visual porosity, no oil fluorescence.	136 (60:8:13:12:7)
3297 (3.5)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, common calcite and trace quartz lined fractures, hard, no visual porosity, no oil fluorescence.	4337 (60:8:13:12:7)
3300 (4.5)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, occasionally very dark grey and moderately carbonaceous, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, common calcite lined fractures, hard, no visual porosity, no oil fluorescence.	80 (60:8:13:12:7)
3303 (4.5)	100 Trace	SILTY CLAYSTONE, as above, with common calcite lined fractures as above. SANDSTONE, as above, with common calcite lined fractures as above.	78 (60:8:13:12:7)
3306 (4.5)	100 Trace	SILTY CLAYSTONE, as above, with common calcite lined fractures as above. SANDSTONE, as above, with common calcite lined fractures as above.	79 (60:8:13:12:7)
		Glenaire-1 Plugged back for sidetrack due to excessive deviation. T.D. 3306m.	

Depth m/hr	Lith %	**Glenaire-1A (Sidetrack) 152mm hole. Glenaire-1 was plugged back from 3306m (T.D.) to 3041m for sidetrack due to excessive deviation.**	TG u %
3045 (3)	100	Cement.	6 (80:6:5:4:5)
3048 (2.5)	100	Cement.	8 (80:6:5:4:5)
3051 (1.5)	100	Cement.	8 (80:6:5:4:5)
3054 (11)	100	Cement.	11 (80:6:5:4:5)
3057 (20)	100	Cement.	14 (80:6:5:4:5)
3060 (5)	100	Cement.	15 (82:7:5:2:3)
3063 (0.6)	100 Trace	Cement. SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile.	8 (82:7:5:2:3) (82:7:5:2:3)

Depth (ROP avg)	%	Lithology	Gas
3066 (0.7)	Trace 60 40	Cement. SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	5 (82:7:5:2:3)
3069 (1.1)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1 (82:7:5:2:3)
3072 (1.6)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	10.5 (82:8:5:5:tr)
3075 (1.2)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	3.0 (82:8:5:5:tr)
3078 (2.1)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4.2 (84:8:6:2:tr)
3081 (2.3)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	10.5 (84:8:6:2:tr)
3084 (2.4)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	17.5 (83:9:5:2:1)
3087 (2.9)	100	SILTY CLAYSTONE, as above.	10.9 (83:9:5:2:1)
3090 (3.1)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	14.1 (83:9:5:2:1)
3093 (3.2)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	14.6 (83:9:5:2:1)
3096 (3.0)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	19.2 (85:8:4:2:1)
3099 (2.5)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common black coal detritus, common micromica, hard, subfissile. SANDSTONE, as above.	28 (85:8:4:2:1)
3102 (2.3)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	16.7 (85:8:4:2:1)
3105 (2.8)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	10.5 (85:7:5:3:tr)
3108 (3.2)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	5.2 (85:7:5:3:tr)
3111 (3.0)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to occasionally fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	5.4 (80:8:5:4:3)
3114 (2.1)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4.6 (80:8:5:4:3)
3117 (2.2)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	5.3 (82:8:7:3:tr)
3120 (2.1)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4.0 (82:8:7:3:tr)

Depth (ROP avg)	%	Lithology	Gas
3123 (2.8)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	56 (82:8:6:3:1)
3126 (3.1)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	881 (80:9:8:2:1)
3129 (3.0)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	75 (80:9:8:2:1)
3132 (3.5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	42 (80:9:8:2:1)
3135 (3.2)	100	SILTY CLAYSTONE, as above.	26 (80:9:8:2:1)
3138 (3.0)	100	SILTY CLAYSTONE, as above.	7 (81:8:6:3:2)
3141 (2.7)	100	SILTY CLAYSTONE, as above.	5 (81:8:6:3:2)
3144 (2.5)	100	SILTY CLAYSTONE, as above.	20 (84:7:5:3:tr)
3147 (2.6)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	46 (84:7:5:3:tr)
3150 (2.5)	30 70	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	235 (80:8:7:3:2)
3153 (2.5)	80 20 Trace Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown grey, very carbonaceous in part – grades to coal, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above. COAL, black, subvitreous to vitreous, subconchoidal fracture, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	2538 (77:9:8:4:2)
3156 (2.2)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	1320 (75:9:9:5:2)
3159 (2.2)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	209 (75:9:9:5:2)
3162 (2.1)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	163 (75:9:8:5:3)
3165 (2.5)	100	SILTY CLAYSTONE, as above.	948 (76:9:8:5:2)
3168 (3.0)	100	SILTY CLAYSTONE, as above.	73 (76:9:8:5:2)

Depth (ROP avg)	%	Lithology	Gas
3171 (2.5)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, trace calcite lined fractures, hard, no visual porosity, no oil fluorescence.	84 (76:9:8:5:2)
3174 (2.0)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	101 (81:8:6:3:2)
3177 (1.8)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	40 (81:8:6:3:2)
3180 (2.0)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	330 (80:9:6:3:2)
3183 (2.4)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	74 (80:9:6:3:2)
3186 (22)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	81 (80:9:6:3:2)
3189 (24)	70 30	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	194 (80:9:6:3:2)
3192 (40)	40 30 30 Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, very carbonaceous in part, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace fine black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular/contused fracture, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut. Well flowing oil/gas cut mud – probably from fractures associated with the sand/coal. Crude is green, waxy, on the heavier end of a light crude, Gives a bright pale greenish yellow white fluorescence with a milky white cut.	159 (61:12:13:9:5)
3195 (26)	70 30	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to occasionally fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	4561 (61:12:13:9:5)
3198 (28)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	3519 (61:12:13:9:5)

Depth (ROP avg)	%	Lithology	Gas
3201 (28)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	3199 (61:12:13:9:5)
3204 (35)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	2248 (61:12:13:9:5)
3207 (33)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	780 (61:12:13:9:5)
3210 (21)	100	SILTY CLAYSTONE, as above.	877 (77:8:6:5:4)
3213 (24)	100	SILTY CLAYSTONE, as above.	542 (77:8:6:5:4)
3216 (27)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and coaly detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	4056 (60:12:15:9:4)
3219 (22)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	2003 (60:12:15:9:4)
3222 (18)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	220 (60:12:15:9:4)
3225 (3.0)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	290 (57:11:14:11:7)
3228 (6.0)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	3131 (59:11:14:10:6)
3231 (16)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	180 (83:7:5:2:3)
3234 (18)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	453 (79:8:6:4:3)
3237 (19)	60 10 30 Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, very carbonaceous in part – grades to coal, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above. COAL, black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	1503 (79:8:6:4:3)
3240 (11)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	173 (79:8:6:4:3)
3243 (8.0)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	123 (85:6:3:8:3)
3246 (2.5)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4436 (58:11:14:11:6)
3249 (1.2)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1513 (77:8:6:5:4)

Depth (ROP avg)	%	Lithology	Gas
3252 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4521 (60:11:13:10:6)
3255 (16)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	185 (79:8:6:4:3)
3258 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	150 (79:8:6:4:3)
3261 (11)	90 Trace 10 Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, very carbonaceous in part – grades to coal, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile SANDSTONE, as above. COAL, black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	598 (64:10:11:9:6)
3264 (7)	40 60	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	4381 (64:10:11:9:6)
3267 (2.5)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	4451 (60:12:16:9:4)
3270 (1.3)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1306 (60:12:16:9:4)
3273 (1.6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	1337 (60:12:16:9:4)
3276 (20)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	124 (81:7:5:4:3)
3279 (24)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, hard, subfissile SANDSTONE, as above.	145 (81:7:5:4:3)
3282 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	641 (81:6:6:4:3)
3285 (19)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	295 (81:6:6:4:3)
3288 (31)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	287 (81:6:6:4:3)

Depth (ROP avg)	%	Lithology	Gas
3291 (28)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	280 (81:6:6:4:3)
3294 (35)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	4305 (70:10:8:7:5)
3297 (32)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	3485 (70:10:8:7:5)
3300 (33)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	2011 (62:11:13:16:4)
3303 (2.0)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	727 (62:11:13:16:4)
3306 (1.4)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	587 (76:7:6:6:5)
3309 (18)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4572 (57:11:15:12:5)
3312 (12)	100	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile	1197 (62:11:13:16:4)
3315 (11)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, hard, subfissile SANDSTONE, as above.	347 (83:7:4:3:3)
3318 (9)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	1324 (87:6:3:2:2)
3321 (8)	90 Trace 10 Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, very carbonaceous in part – grades to coal, common micromica, hard, subfissile. SANDSTONE, as above. COAL, black to very dark grey, very argillaceous – grades to carbonaceous claystone, earthy lustre, irregular to blocky fracture, hard. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	639 (87:6:3:2:2)
3324 (10)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, hard, subfissile SANDSTONE, as above.	390 (70:8:10:7:5)
3327 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	273 (59:12:15:7:6)
3330 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4578 (59:12:15:7:6)
3333 (11)	100	SILTY CLAYSTONE, as above	443 (76:7:6:6:5)
3336 (13)	100	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, very carbonaceous in part – grades to coal, common micromica, hard, subfissile.	157 (63:11:13:9:4)
3339 (32)	100	SILTY CLAYSTONE, as above	4287 (63:11:13:9:4)
3342 (20)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, common micromica, hard, subfissile SANDSTONE, as above.	319 (65:10:11:9:5)
3345 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4237 (65:10:11:9:5)
3348 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	120 (65:10:11:9:5)
3351 (6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	85 (80:7:5:4:3)

Depth (ROP avg)	%	Lithology	Gas
3354 (8)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	115 (80:7:5:4:3)
3357 (8)	80 20	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile SANDSTONE, as above.	3908 (75:9:7:5:4)
3360 (1.5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	4583 (75:8:6:6:5)
3363 (1.4)	100	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, hard, subfissile.	472 (75:8:6:6:5)
3366 (4.8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, silty to very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, trace fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	4426 (59:11:14:11:5)
3369 (10)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	211 (75:8:6:6:5)
3372 (8)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	150 (75:8:6:6:5)
3375 (18)	100	SILTY CLAYSTONE, as above.	145 (75:8:6:6:5)
3378 (15)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	170 (75:8:6:6:5)
3381 (14)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, rare fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence.	190 (75:8:6:6:5)
3384 (8)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	155 (75:8:6:6:5)
3387 (2.5)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	403 (76:7:7:6:4)
3390 (1.3)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	334 (76:7:7:6:4)
3393 (5)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, as above.	201 (76:7:7:6:4)
3396 (6)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	364 (83:6:3:5:3)
3399 (8)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	240 (83:6:3:5:3)
3402 (11)	70 10 20 Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white to light brown, very fine to fine, dominantly very fine, subangular to subrounded, moderately sorted, strong silica and calcareous cements, abundant off white argillaceous matrix – matrix supported, abundant altered feldspar grains, trace green grey brown red and black volcanogenic lithics, trace quartz grains, rare fine brown mica flakes, trace black carbonaceous detritus, hard, no visual porosity, no oil fluorescence. COAL, black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	317 (90:4:2:5:1)

Depth (ROP avg)	%	Lithology	Gas
3405 (11)	80 10 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, as above.	409 (87:6:3:3:1)
3408 (7)	70 10 20 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, from coal as above.	319 (85:6:4:3:2)
3411 (8)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, as above.	201 (85:6:4:3:2)
3414 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	210 (85:6:4:3:2)
3417 (1.3)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	207 (85:6:4:3:2)
3420 (2.5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	494 (89:4:2:3:2)
3423 (7)	90 10 Fluor	SILTY CLAYSTONE, as above. COAL, as above. FLUORESCENCE, from coal as above.	214 (89:4:2:3:2)
3426 (14)	90 10 Fluor	SILTY CLAYSTONE, as above. COAL, as above. FLUORESCENCE, from coal as above.	256 (89:4:2:3:2)
3429 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	240 (89:4:2:3:2) (89:4:2:3:2)
3432 (6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	386 (91:4:1:2:2)
3435 (8)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, abundant calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, as above, with common calcite lined fractures.	157 (91:4:1:2:2)
3438 (6)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	319 (91:4:2:2:1)
3441 (9)	40 60 OIL	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, abundant calcite lined fractures, very hard, no visible intergranular porosity, no intergranular oil fluorescence. FLUORESCENCE, the fracture infill material has dull yellow mineral fluorescence and 10% dull to moderately bright very pale yellow white oil fluorescence giving a weak dull milky white crush cut fluorescence.	309 (91:4:2:2:1)
3444 (10)	40 60 OIL	SILTY CLAYSTONE, as above. SANDSTONE, as above. FLUORESCENCE, as above.	1647 (86:7:3:2:2)
3447 (9)	30 70 OIL	SILTY CLAYSTONE, medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, abundant calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, off white, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, abundant calcite lined fractures, very hard, no visible intergranular porosity, no intergranular oil fluorescence. FLUORESCENCE, the fracture infill material has dull yellow mineral fluorescence and trace dull to moderately bright very pale yellow white oil fluorescence giving a weak dull milky white crush cut fluorescence.	204 (86:7:3:2:2)

Depth (ROP avg)	%	Lithology	Gas
3450 (5)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, trace to common quartz grains, trace black coaly detritus, abundant calcite lined fractures, very hard, no visible intergranular porosity, no oil fluorescence.	146 (86:7:3:2:2)
3453 (8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	504
3456 (8)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	2 (86:7:3:2:2)09
3459 (9)	80 20	SILTY CLAYSTONE, medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, common calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.	210 (86:7:3:2:2)
3462 (10)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	207 (86:7:3:2:2)
3465 (15)	90 Trace 10 Fluor	SILTY CLAYSTONE, medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence. COAL, black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle. FLUORESCENCE, the sandstone has dull orange mineral fluorescence, no cut, the coal has no fluorescence but gives a weak pale yellow crush cut.	1089 (90:6:2:1:1)
3468 (6)	80 10 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, as above.	220 (90:6:2:1:1)
3471 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white, silty to occasionally fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.	227 (90:6:2:1:1)
3474 (13)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	228 (90:6:2:1:1)
3477 (11)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	214 (90:6:2:1:1)
3480 (4)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.	190 (90:6:2:1:1)
3483 (7)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, off white, silty to very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.	197 (90:6:2:1:1)

Depth (ROP avg)	%	Lithology	Gas
3486 (10)	100 Trace	SILTY CLAYSTONE, medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, rare calcite lined fractures, common micromica, hard, subfissile. SANDSTONE, off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, rare calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.	1084 (89:6:3:1:1)
3489 (10)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	172 (89:6:3:1:1)
3492 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	170 (89:6:3:1:1)
3495 (8)	100 Trace Trace Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. COAL, as above. FLUORESCENCE, cut from coal as above.	172 (89:6:3:1:1)
3498 (9)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	190 (89:6:3:1:1)
3501 (6)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	219 (89:6:3:1:1)
3504 (7)	100	SILTY CLAYSTONE, as above.	234 (89:6:3:1:1)
3507 (5)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	219 (89:6:3:1:1)
3510 (17)	30 70	SILTY CLAYSTONE, medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white, very fine to fine, dominantly fine, angular to subrounded, moderately to well sorted, strong silica and weak calcareous cements, abundant white argillaceous matrix, quartzose, abundant altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, no visual porosity, no oil fluorescence.	130 (89:6:3:1:1)
3513 (22)	100	SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately to well sorted, strong silica and weak calcareous cements, abundant white argillaceous matrix, quartzose, abundant altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, no visual porosity, no oil fluorescence.	68 (89:6:3:1:1)
3516 (15)	100	SANDSTONE, as above.	458 (93:3:2:1:1)
3519 (18)	100	SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately to well sorted, moderate silica and weak calcareous cements, common white argillaceous matrix, quartzose, abundant altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, poor visual porosity, no oil fluorescence.	628 (93:3:2:1:1)
3522 (7)	100	SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately to well sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, abundant altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, very poor visual porosity, no oil fluorescence.	1809 (93:3:2:1:1)
3525 (16)	100	SANDSTONE, off white, very fine to occasionally coarse, dominantly fine to medium, angular to subrounded, moderately to well sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, very poor visual porosity, no oil fluorescence.	739 (94:4:1:1:tr)
3528 (15)	100	SANDSTONE, off white, very fine to coarse, dominantly medium, angular to subrounded, moderately sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, very poor visual porosity, no oil fluorescence.	2088 (94:4:1:1:tr)

Depth (ROP avg)	%	Lithology	Gas
3531 (7)	100	SANDSTONE, off white, very fine to occasionally very coarse, dominantly medium to coarse, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, hard, poor visual porosity, no oil fluorescence.	2332 (95:4:1:tr:tr)
3534 (4)	70 30	SILTY CLAYSTONE, medium to dark brown to medium to dark grey, occasional very fine altered feldspar grains in part, slightly carbonaceous, trace fine black carbonaceous flecks and detritus in part, common micromica, hard, subfissile. SANDSTONE, as above.	214 (92:4:2:1:1)
3537 (6)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	128 (92:4:2:1:1)
3540 (6)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly fine, angular to subrounded, moderately to well sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, abundant altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	132 (92:4:2:1:1)
3543 (3)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown, common very fine altered feldspar grains in part, slightly carbonaceous, trace fine black carbonaceous flecks and detritus in part, common micromica, hard, subfissile. SANDSTONE, as above.	129 (92:4:2:1:1)
3546 (2)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to very coarse, dominantly fine, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	104 (92:4:2:1:1)
3549 (4)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	97 (92:4:2:1:1)
3552 (3)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	106 (92:4:2:1:1)
3555 (5)	40 60	SILTY CLAYSTONE, medium to dark grey to medium brown, trace very fine altered feldspar grains in part, moderately carbonaceous, trace fine black carbonaceous flecks and detritus in part, common micromica, hard, subfissile. SANDSTONE, off white, very fine to rarely coarse, dominantly medium, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, trace to common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence.	96 (92:4:2:1:1)
3558 (7)	10 90	SILTY CLAYSTONE, as above. SANDSTONE, as above.	256 (92:4:2:1:1)
3561 (2)	20 80	SILTY CLAYSTONE, as above. SANDSTONE, as above.	149 (88:5:3:2:2)
3564 (1)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, as above.	110 (88:5:3:2:2)
3567 (2)	30 70	SILTY CLAYSTONE, medium to dark grey to medium brown grey, trace very fine altered feldspar grains in part, moderately carbonaceous, trace fine black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white, very fine to rarely very coarse, dominantly medium, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, trace to common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence, dull orange mineral fluorescence.	110 (72:8:7:7:6)

Depth (ROP avg)	%	Lithology	Gas
3570 (1)	50 50	SILTY CLAYSTONE, medium to dark grey to rarely medium brown grey, moderately carbonaceous, trace fine black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, poorly sorted, strong silica and weak calcareous cements, common white argillaceous matrix, quartzose, trace to common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence, dull orange mineral fluorescence.	86 (72:8:7:7:6)
3573 (1)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	58 (72:8:7:7:6)
3576 (1)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, as above.	98 (72:8:7:7:6)
3579 (1.2)	90 10	SILTY CLAYSTONE, medium to dark grey to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	80 (77:7:6:9:7)
3582 (1.7)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, poorly sorted, strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspars, trace green grey black and brown lithics, trace fine black coaly detritus, very hard, no visual porosity, no oil fluorescence, dull orange mineral fluorescence.	98 (77:7:6:9:7)
3585 (1.6)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	95 (77:7:6:9:7)
3588 (1.9)	100	SILTY CLAYSTONE, medium grey to black, rarely medium brown, very carbonaceous in part, trace black carbonaceous flecks and detritus, trace micromica, hard to very hard, subfissile.	83 (77:7:6:9:7)
3591 (1.9)	100	SILTY CLAYSTONE, as above.	57 (72:6:5:8:9)
3594 (3.0)	30 70 OIL	SILTY CLAYSTONE, as above. KAOLINITIC SANDY CLAYSTONE, off white, moderately calcareous, common to abundant very fine to occasionally fine quartz sand grains, trace black coaly laminates, firm, non fissile, very poor inferred porosity. FLUORESCENCE, the kaolinite has 50% dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut.	41 (72:6:5:8:9)
3597 (5.0)	10 90 OIL	SILTY CLAYSTONE, as above. KAOLINITIC SANDSTONE, off white, moderately calcareous, abundant very fine to fine quartz sand grains dispersed through a white kaolin clay matrix, common black coaly laminates, moderately hard, very poor intergranular porosity. FLUORESCENCE, the kaolinite has 50% very dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut.	35 (72:6:5:8:9)
3600 (3.8)	10 90 OIL	SILTY CLAYSTONE, as above. KAOLINITIC SANDSTONE, off white, moderately calcareous, abundant very fine to fine quartz sand grains dispersed through a white kaolin clay matrix, common black coaly laminates, trace grey banded cryptocrystalline chert – possible fracture infill?, moderately hard, very poor intergranular porosity. FLUORESCENCE, the kaolinite has 5% very dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut.	56 (72:6:5:8:9)
3603 (4.2)	100 OIL	SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, common to abundant white argillaceous matrix, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, trace grey banded cryptocrystalline chert – possible fracture infill?, very hard, no visual porosity. FLUORESCENCE, the kaolinite has trace very dull patchy medium yellow oil fluorescence giving a very weak dull pale yellow crush cut.	78 (84:6:4:3:3)
3606 (1.4)	60 40	SILTY CLAYSTONE, medium grey to black to medium brown, moderately carbonaceous, trace black carbonaceous flecks and detritus, common micromica, hard, subfissile. SANDSTONE, as above.	77 (84:6:4:3:3)

Depth (ROP avg)	%	Lithology	Gas
3609 (1.3)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly very fine, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common to abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	39 (84:6:4:3:3)
3612 (1.4)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	28 (84:6:4:3:3)
3615 (1.3)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	21 (84:6:4:3:3)
3618 (1.2)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	13 (84:6:4:3:3)
3621 (1.8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	29 (80:7:4:4:5)
3624 (1.7)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	41 (80:7:4:4:5)
3627 (1.8)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	37 (80:7:4:4:5)
3630 (1.7)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly very fine, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, abundant white argillaceous matrix, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	43 (80:7:4:4:5)
3633 (1.8)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	2692 (80:7:4:4:5)
3636 (2.3)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly very fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, no visual porosity, no oil fluorescence.	135 (82:7:5:3:3)
3639 (2.5)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	25 (82:7:5:3:3)
3642 (1.5)	80 20	SILTY CLAYSTONE, medium grey to black to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and coaly detritus, trace to common micromica, hard, subfissile. SANDSTONE, off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, no visual porosity, no oil fluorescence.	26 (82:7:5:3:3)
3645 (3.1)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	86 (82:7:5:3:3)
3648 (1.3)	80 20	SILTY CLAYSTONE, as above. SANDSTONE, as above.	44 (82:7:5:3:3)
3651 (1.3)	100 Trace	SILTY CLAYSTONE, as above. SANDSTONE, as above.	14 (82:7:5:3:3)
3654 (1.4)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	8 (82:7:5:3:3)
3657 (1.2)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, as above.	31 (81:5:6:5:3)
3660 (1.9)	70 30	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, trace grey banded cryptocrystalline chert, hard, no visual porosity, no oil fluorescence.	64 (81:5:6:5:3)

Depth (ROP avg)	%	Lithology	Gas
3663 (3.3)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, abundant grey banded cryptocrystalline chert, hard, no visual porosity, no oil fluorescence.	51 (81:5:6:5:3)
3666 (2.1)	30 70	SILTY CLAYSTONE, as above. SANDSTONE, as above.	61 (81:5:6:5:3)
3669 (2.2)	20 80	SILTY CLAYSTONE, as above. SANDSTONE, as above.	56 (86:6:3:3:2)
3672 (2.6)	100	KAOLINITIC SANDSTONE, off white, very fine to occasionally fine, angular to subrounded, moderately sorted, moderate silica and weak calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace black coaly detritus, trace grey banded cryptocrystalline chert, moderately hard, no visual porosity, no oil fluorescence.	47 (86:6:3:3:2)
3675 (4.6)	10 90	SILTY CLAYSTONE, medium grey to black to medium brown grey, moderately carbonaceous, trace black carbonaceous flecks and coaly detritus, trace to common micromica, hard, subfissile. SANDSTONE, off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, abundant grey banded cryptocrystalline chert, hard, no visual porosity, no oil fluorescence.	51 (86:6:3:3:2)
3678 (1.9)	60 40	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to occasionally fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, no visual porosity, no oil fluorescence.	41 (84:6:4:3:3)
3681 (4.1)	10 90	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix –matrix supported, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, hard, very poor visual porosity, no oil fluorescence.	190 (95:3:1:tr:tr)
3684 (1.2)	10 90	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to medium, dominantly fine, angular to subrounded, moderately sorted, strong silica and moderate calcareous cements, abundant white argillaceous matrix, quartzose, abundant altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	55 (95:3:1:tr:tr)
3687 (1.1)	40 60	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to medium, dominantly medium, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	40 (95:3:1:tr:tr)
3690 (1.2)	40 60	SILTY CLAYSTONE, medium grey to black to medium brown, moderately to very carbonaceous, trace black carbonaceous flecks and coaly detritus, trace very fine altered feldspar where brown, trace to common micromica, hard, subfissile. SANDSTONE, as above	51 (95:3:1:tr:tr)
3693 (1.6)	90 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. FLUORESCENCE, the carbonaceous material has no fluorescence but gives a very dull yellow crush cut.	94 (88:7:5:3:2)
3696 (1.8)	90 10 Fluor	SILTY CLAYSTONE, as above. SANDSTONE, as above. FLUORESCENCE, the carbonaceous material has no fluorescence but gives a very dull yellow crush cut.	73 (88:7:5:3:2)

Depth (ROP avg)	%	Lithology	Gas
3699 (1.2)	50 50	SILTY CLAYSTONE, as above. SANDSTONE, off white, very fine to fine, dominantly fine, angular to subrounded, moderately sorted, very strong silica and moderate calcareous cements, common white argillaceous matrix, quartzose, common altered feldspar grains, trace green, orange and grey lithics, trace black coaly detritus, very hard, no visual porosity, no oil fluorescence.	51 (88:7:5:3:2)
3700 (1.2)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	125 (88:7:5:3:2)
		TOTAL DEPTH: 3700m. Reached 1430 hrs 25-10-2006	
3701 (0.9)	90 10	SILTY CLAYSTONE, as above. SANDSTONE, as above.	45 (90:6:2:1:1)
		3700-3701m drilled to evaluate torque.	

Formation Evaluation
Quick look

Products:	• Interactive Petrophysics*
Company:	• Beach Petroleum
Well(s):	• Glenaire-1 ST1 (8 ½" Section)
Interval:	• 1125.4 to 1439.0m MD
Analysis Date:	• October 29, 2006
Logging Date:	• November 13, 2006
Location:	• Schlumberger Data Services Centre • Melbourne, Victoria
Analyst(s):	• Ashish Datey
Logging Engineer:	• Malik Jahangir / Thanenthiran

Prepared by:
Ashish Datey
Schlumberger Oilfield Australia Pty Ltd
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40 City Road, Melbourne VIC 3006.
Telephone: +61-3-9674 7128
Facsimile: +61-3-9674 7255
mailto:dcs@perth.oilfield.slb.com
datey1@melbourne.oilfield.slb.com

* Mark of Schlumberger

Executive Summary

Hydrocarbon zones could not be identified from standard logs. While drilling, the well began flowing oil/gas cut mud at 3192m MD. There was no fluorescence observed in the sand and the there no discernable porosity

The tables below summarise the interpreted logs.

Reservoir SUMMARY

Zn #	Zone Name	Top	Bottom	Gross	Net	N/G	Av Phi	Av Sw	Av Vcl Ari	Phi*H	PhiSo*H
1		3072.00	3694.00	622.00	16.41	0.026	0.135	0.944	0.226	2.22	0.13
	All Zones	3072.00	3694.00	622.00	16.41	0.026	0.135	0.944	0.226	2.22	0.13

Pay SUMMARY

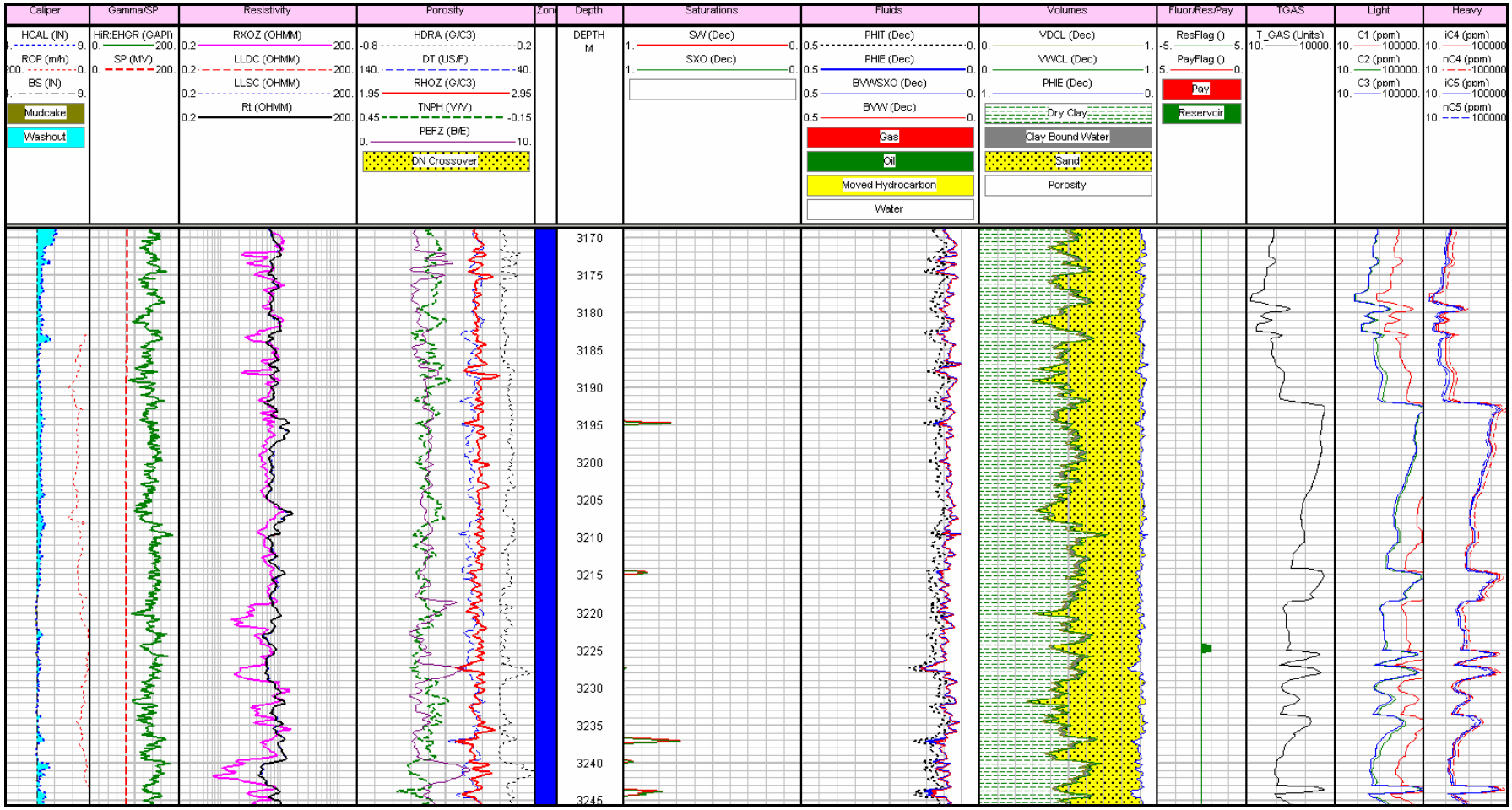
Zn #	Zone Name	Top	Bottom	Gross	Net	N/G	Av Phi	Av Sw	Av Vcl	Phi*H Ari	PhiSo*H
1		3072.00	3694.00	622.00	0.00	0.000	---	---	---	---	---
	All Zones	3072.00	3694.00	622.00	0.00	0.000	---	---	---	---	---

CUTOFFS USED

Zn #	Zone Name	Top	Bottom	Min.	Phi Height	Sw PHIE	Vcl SW	VWCL
	Reservoir							
1		3072.00	3694.00	1.	>= 0.1		<= 0.5	
	Pay							
1		3072.00	3694.00	1.	>= 0.1	<= 0.6	<= 0.5	

Depth Units : m

Figure 1 : Evaluation results around 3192m MD



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Saturation....14
Porosity....15
Cutoff....15
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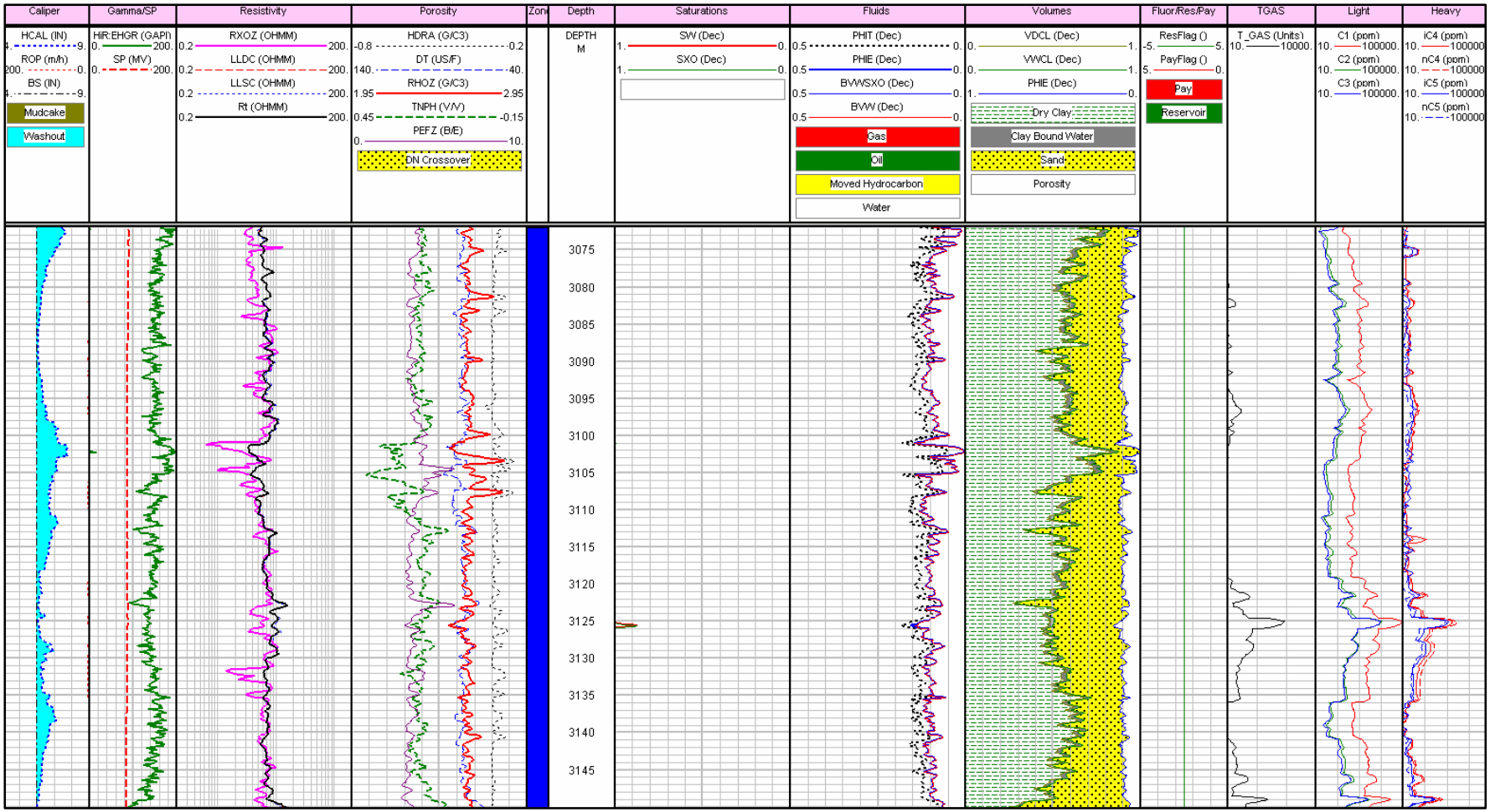
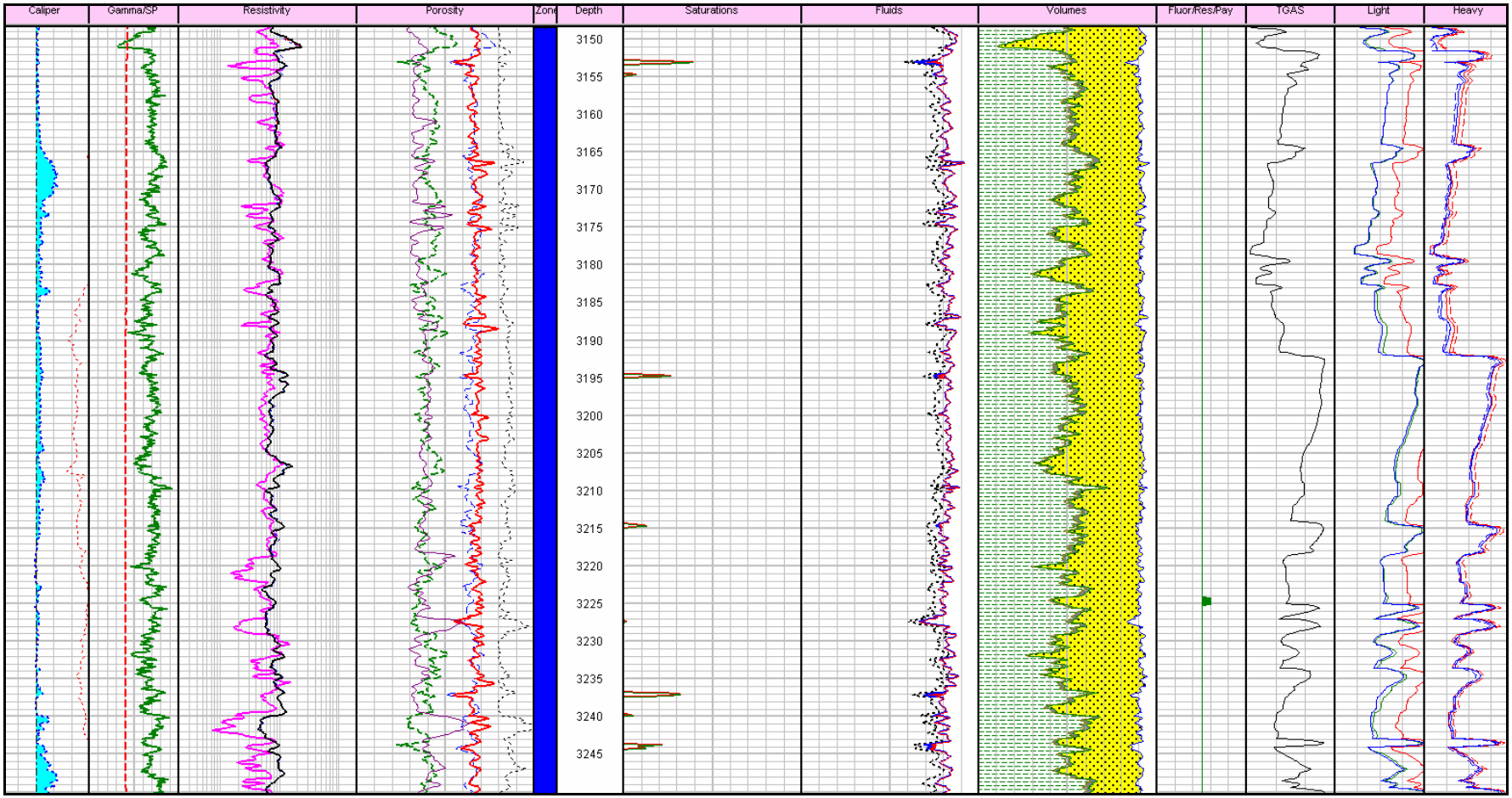
Results

Figure 2, Formation Evaluation Results, 1:500




Caliper
Gamma/SP
Resistivity
Porosity
Zone
Depth
Saturations
Fluids
Volumes
Fluor/Res/Pay
TGAS
Light
Heavy
3150
3155
3160
3165
3170
3175
3180
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3190
3195
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3210
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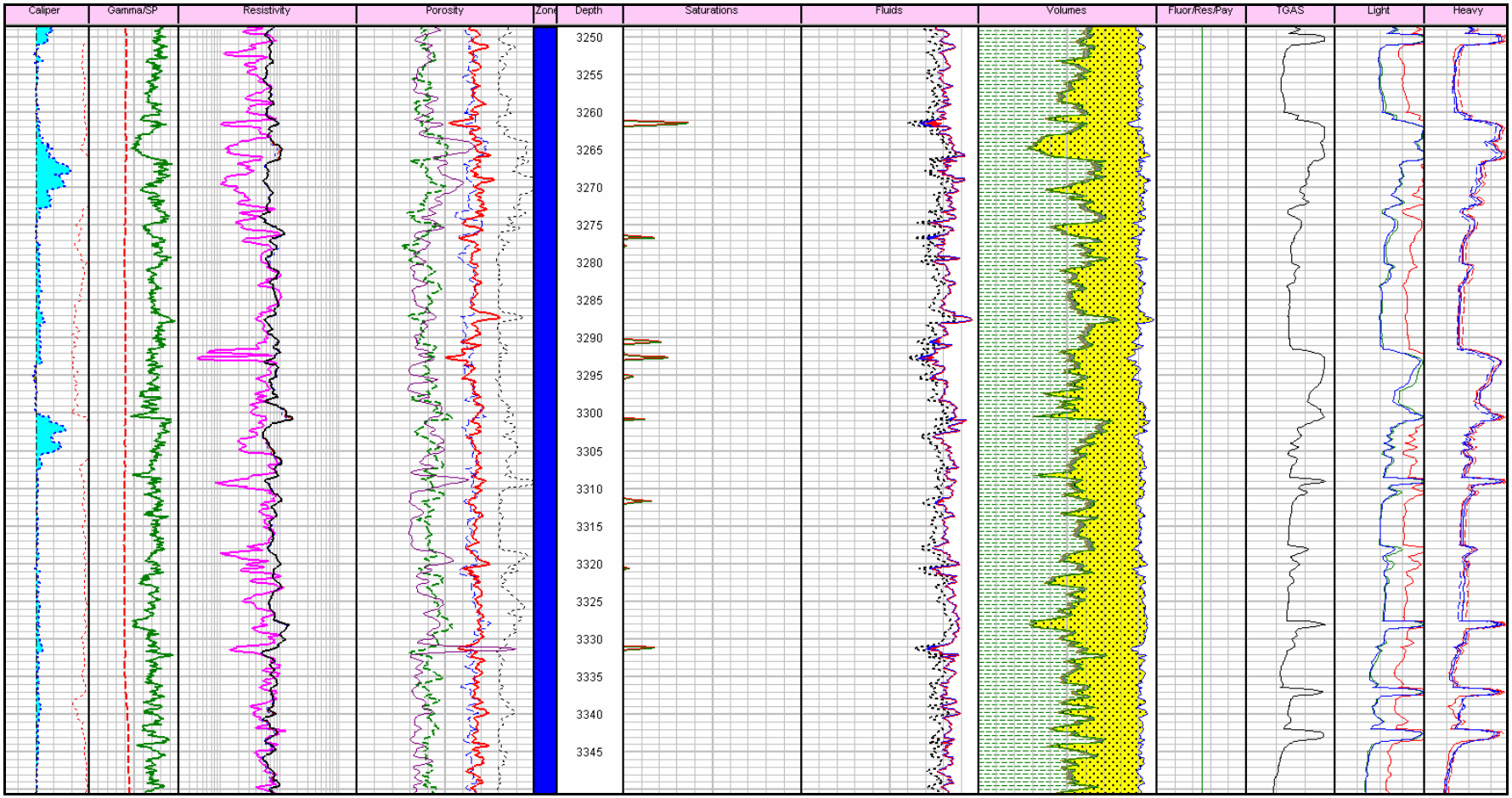
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Gamma/SP
Resistivity
Porosity
Zone
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Saturations
Fluids
Volumes
Fluor/Res/Pay
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3265
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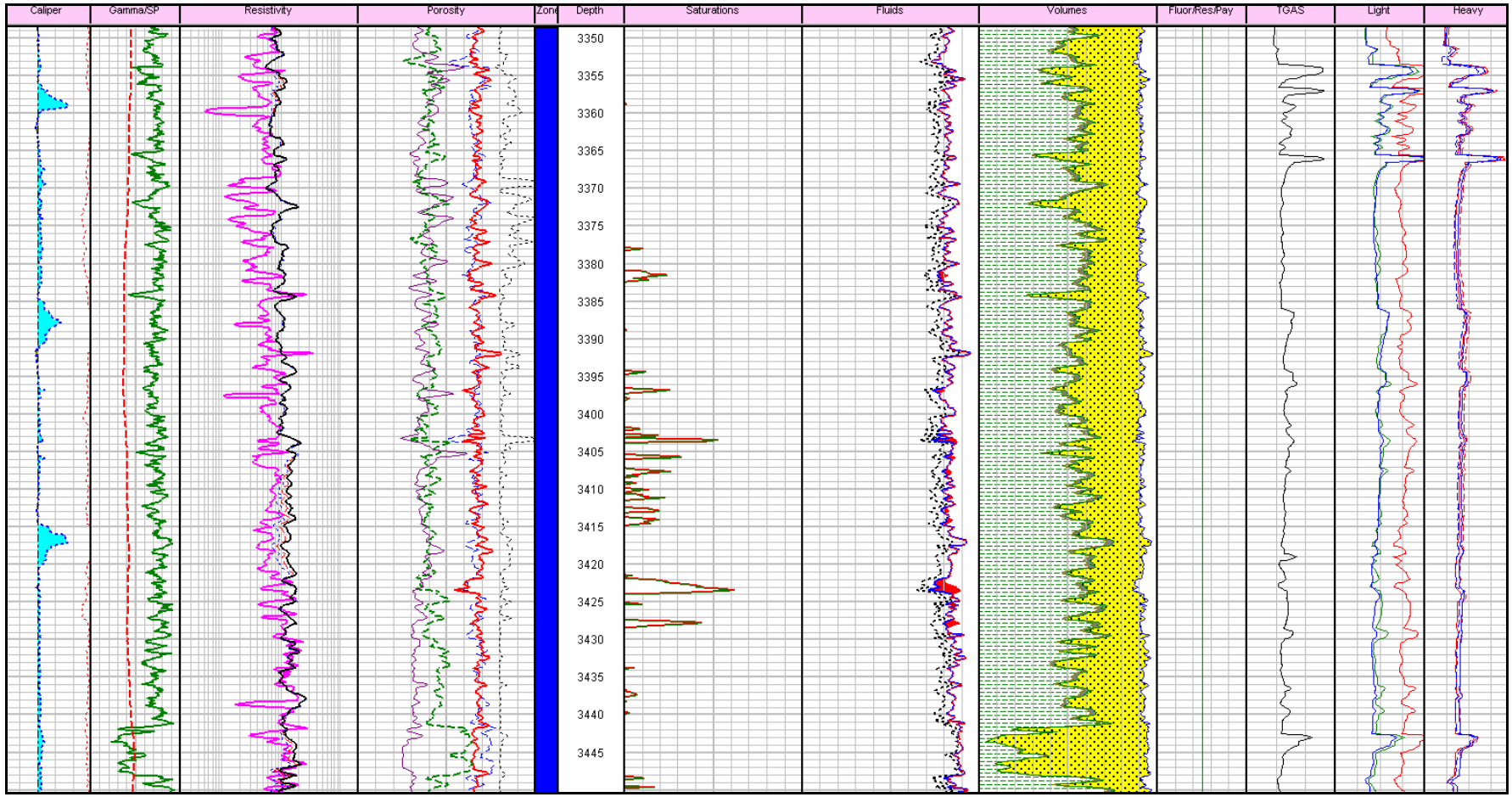
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Zone
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Saturations
Fluids
Volumes
Fluor/Res/Pay
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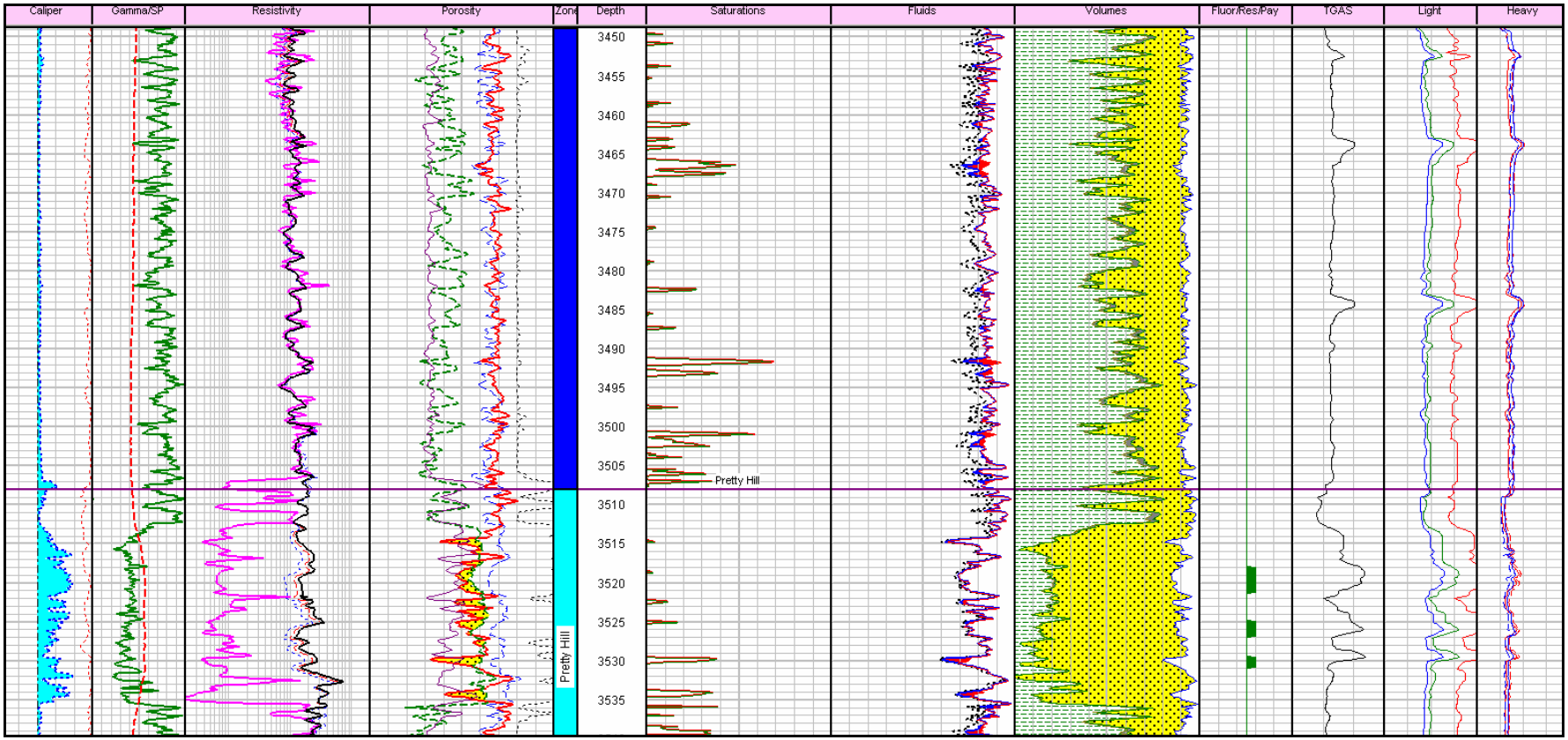
Caliper
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Resistivity
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Saturations
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Volumes
Fluor/Res/Pay
TGAS
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Heavy
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3455
3460
3465
3470
3475
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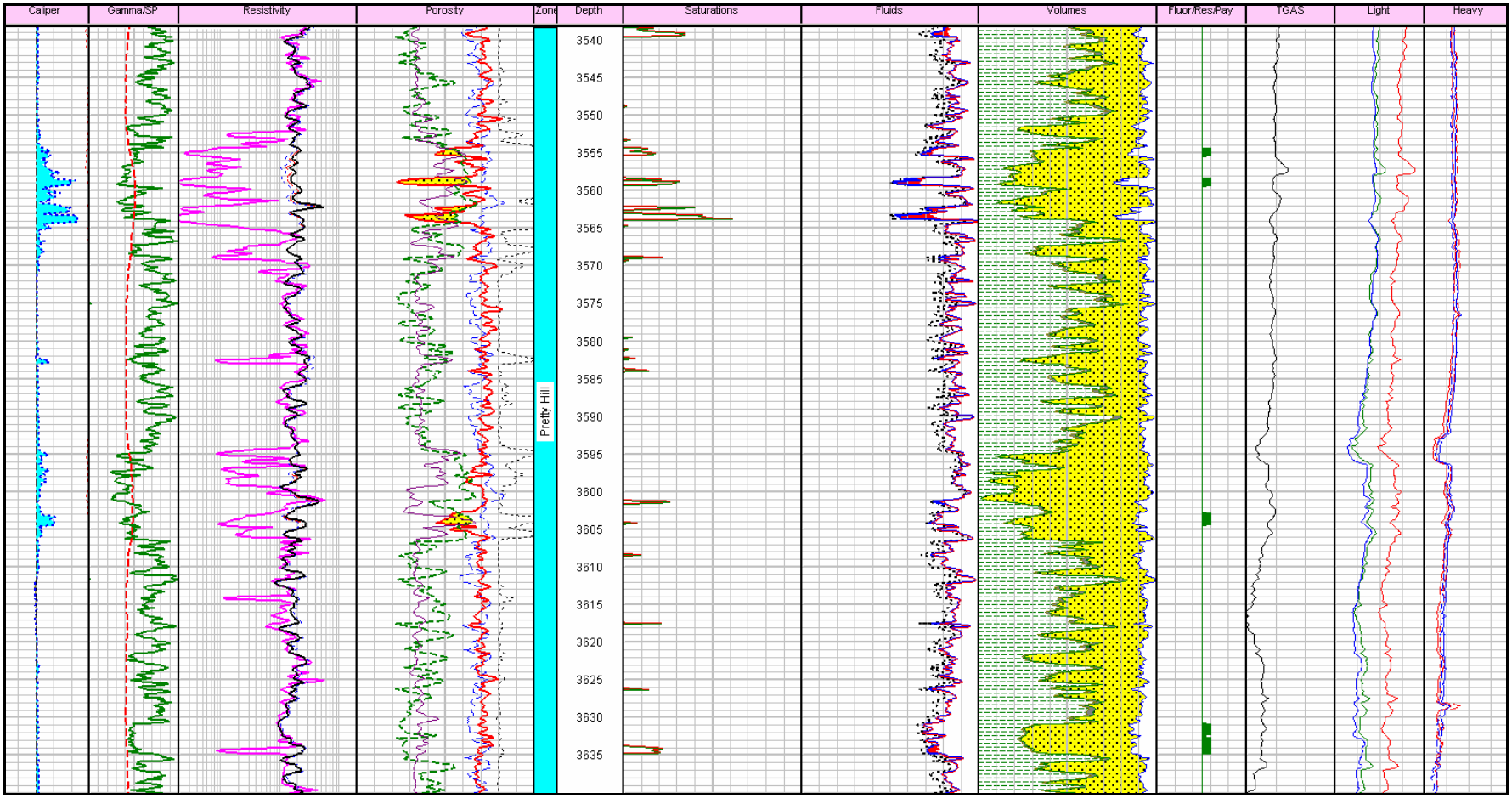
3495
3500
3505
Pretty Hill
3510
3515
3520
3525
3530
3535
Pretty Hill


Caliper
Gamma/SP
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Saturations
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Volumes
Fluor/Res/Pay
TGAS
Light
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3545
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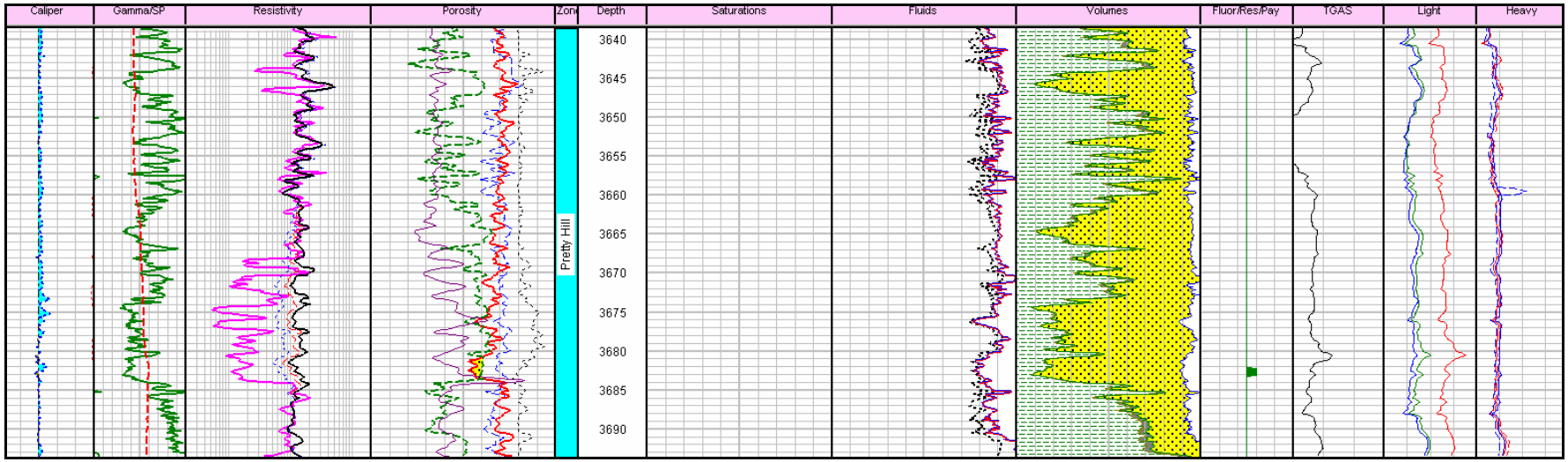
Caliper
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3675
3680
3685
3690

Methodology

Logs were recorded in open hole from TD to casing shoe. GR, nuclear, resistivity and sonic logs were recorded from TD to Casing Shoe, and GR to surface. Logs evaluation was done from the standard resolution. The open hole data was analysed using the Schlumberger evaluation package, Interactive Petrophysics (IP*). This graphically interactive package uses deterministic methods to quickly evaluate acquired log data.

General Information

The following general information and parameters were taken from field logs and tapes:

Well Data

Company Name	Beach Petroleum Limited			CN
Well Name	Glenaire-1 ST1			WN
Field Name	Exploration			FN
Rig:	Ensign Rig 32			CLAB, COUN
State:	Victoria			SLAB, STAT
Nation	Australia			NATI
Field Location	PEP 160			FL
				FL1
Longitude	140 59' 52.25 E			LONG
Latitude	37 34' 47.03 S			LATI
Maximum Hole Deviation	9.0 (deg)			MHD
Elevation of Kelly Bushing	76.1 (m)			EKB
Elevation of Ground Level	70.0 (m)			EGL
Elevation of Derrick Floor	76.1 (m)			EDF
Permanent Datum	Ground Level, GDA94	Elevation of Permanent Datum	0.0 (m)	PDAT, EPD
Log Measured From	Rotary Table	Above Permanent Datum (m)	76.1	LMF, APD
Drilling Measured From	Rotary Table			DMF

Absent Valued Parameters: CN1, CONT, FL2, SECT, TOWN, RANG, APIN, SON

Job Data

Date as Month-Day-Year	29-Oct-2006			DATE
Run Number	1			RUN
Total Depth - Driller	3700.0 (m)			TDD
Total Depth - Logger	3702.5 (m)			TDL
Bottom Log Interval	3699.6 (m)			BLI
Top Log Interval	2997 (m)			TLI
Current Casing Size	7.00 (in)			CSIZ
Casing Weight	26.0 (lbm/ft)			CWEI
Bit Size	6.00 (in)			BS
Date Logger At Bottom	26-Oct-2020	Time Logger At Bottom	15:08	DLAB, TLAB

Logging Unit Number	3170	Logging Unit Location	AUMB	LUN, LUL
Engineer's Name	Malik Jahangir/Thanenthiran			ENGI
Witness's Name	Mr David Horner			WITN

Absent Valued Parameters: CDF, CADT, CASG, BSDF, BSDT, SON

Mud Data

Drilling Fluid Type	KCL-PHPA-Polymer			DFT
Drilling Fluid Density	1.321 (gm/cm3)	Drilling Fluid Viscosity	39.0 (s)	DFD, DFV
Drilling Fluid Loss	6.40 (cm3)	Drilling Fluid PH	9.50	DFL, DFPH
Borehole Salinity	100000.0 (ppm)			BSAL
Mud Sample Source	Flowline			MSS
Resistivity of Mud Sample	0.054 (ohm.m)	Mud Sample Temperature (degC)	14.8	RMS, MST
Resistivity of Mud Filtrate Sample	0.047 (ohm.m)	Mud Filtrate Sample Temperature	14.8 (degC)	RMFS, MFST
Resistivity of Mud Cake Sample	0.0675 (ohm.m)	Mud Cake Sample Temperature	14.8 (degC)	RMCS, MCST
Resistivity of Mud - BHT	0. 01262 (ohm.m)			RMB
Resistivity of Mud Filtrate - BHT	0.01098 (ohm.m)			RMFB
Maximum Recorded Temperature	134 (degC)			MRT
	134 (degC)			MRT1
	133 (degC)			MRT2
Date Circulation Stopped	26-Oct-2006	Time Circulation Stopped	15:40	DCS, TCS
Date Logger At Bottom	29-Oct-2006	Time Logger At Bottom	15:08	DLAB, TLAB

Absent Valued Parameters: MRT3

Log Quality

Logs over zones of interest are of reasonable quality. HDRA is small; hole appears to be in reasonable shape. The PEx-Sonic data was recorded in on run and the DLL data was recorded in second run and therefore field had done depth matching for the 2 runs

Environmental Corrections

All corrections for neutron were done in the field, excluding formation salinity. This was computed inside the evaluation software (IP), as it is dependent on saturations.

Borehole corrections were done in the field for the resistivity. Shoulder bed corrections were not done. Rt (HART) was calculated in the IP Software using tornado chart type corrections

Rxo data, RXOZ / RXO8 data is computed using a borehole model, and therefore is correct when recorded.

Density, RHOZ data is corrected using borehole shape (BS) and the PEF corrected for barite when recorded.

Gamma ray, ECGR data is corrected for hole size (from caliper) and mud weight in the field, thus no further correction was applied.

Rt Determination

Rt was determined using DLL and RXOZ data

Rw Determination

The Rw's were either interpreted from the logs or regional values were used for the saturation computations.

1. The Rw for interval 3072m-3508m was taken as 4.8 ppk
2. The Rw for interval 3508-3694m (Pretty Hill Formation) was taken as 2.3 ppk

Vclay Determination

Vclay was determined using GR

```
Well :  Glenaire-1 ST1
Date :  13/11/2006 4:17:02 PM

   Input Curves
Gamma Ray          : ECGR                    Neu/Den Density    : RHOZ
Neu/Den Neutron    : TNPH                    Neu/Son Neutron    : TNPH
Neu/Son Sonic      : DT
   Output Curves
Vclay Gamma Ray    : VCLGR                   Vclay Neu/Den      : VCLND
Vclay Neu/Son      : VCLNS                   Vclay minimum      : VCL
Vclay average      : VCLAV

   Zone number 1   Top :  3072.00  Bottom :  3694.00
Gr Use          : Yes         Gr Clean        : 50.         Gr Clay         : 220.
Gr Method       : Linear      ND Use          : No          ND Neu Clay     : 0.294
ND Den Clay     : 2.842       ND Den Clean1   : 2.65        ND Den Clean2   : 2.05
ND Neu Clean1   : -0.04       ND Neu Clean2   : 0.3         NS Use          : No
NS Neu Clay     : 0.319       NS Son Clay     : 73.2        NS Son Clean1   : 55.
NS Son Clean2   : 97.1        NS Neu Clean1   : -0.02       NS Neu Clean2   : 0.251
```

Lithology Determination

Lithology was assumed to be sand and clay, using the parameters above.

Saturation

Saturation was calculated using the Dual Water equation:

1/Rt = PhiT**m.SwT**n/a.(1/Rw + Swb/SwT(1/Rwb-1/Rw))

Cementation exponent "m" is the Shell equation in the IP software. "m" increases with decreasing PHIE. The saturation exponent "n" is 1.9.

Porosity

Porosity is calculated using the neutron-density in the IP software.

Cutoff

Cutoffs used were:
Vclay < 50%, Sw < 60% and PHIE < 10%.

Assumptions

1. Mineral model of sand, clay.
2. m is variable using the Shell equation and n assumed to be 1.9

Deliverables

Main Outputs

The following main outputs were delivered with the digital data:

```
#MNEM          UNIT     API CODE   Description
#---------- ---------- ----------  -----------
 DEPTH     .M                     :
 BVW       .Dec                   : Bulk Volume water (Phie x SW)
 BVWSXO    .Dec                   : Bulk Volume water Invaded Zone (Phie x Sxo)
 PayFlag   .                      : Pay Flag
 PayH      .                      : Pay Height
 PHIE      .Dec                   : Effective Porosity
 PHIT      .Dec                   : Total Porosity
 ResFlag   .                      : Reservoir Flag
 ResH      .                      : Reservoir Height
 SW        .Dec                   : Water Saturation
 SWT       .Dec                   : Total Water Saturation
 SXO       .Dec                   : Saturation Invaded Zone
 SXOT      .Dec                   : Total Saturation Invaded Zone
 VCL       .Dec                   : Clay Volume
```

The following deliverables are produced from this processing:

1. Evaluation report (PDF)
2. Evaluation graphics, 1:500 (GIF),
3. LAS outputs of evaluation
4. Cutoffs and evaluation parameters (TXT)

Evaluation Parameters

The following parameters were used for the interpretation:

POROSITY WATER SATURATION PARAMETERS

Well : Glenaire-1 ST1
Date : 13/11/2006 4:17:06 PM

Input Curves

Neutron	: TNPH	Density	: RHOZ
Sonic	: DT	Clay Volume	: VCL
Rt	: Rt	Rxo	: RHOZ
Temperature	: Temp	Bad hole	: HDRA

Output Curves

Phi Total	: PHIT	Phi effective	: PHIE
Sw	: SW	Sw unlimited	: SWU
Sw total	: SWT	Sw total unlim	: SWTU
Sxo	: SXO	Sxo unlimited	: SXOU
Sxo total	: SXOT	Sxo total ulim	: SXOTU
Bulk vol water	: BVW	Bulk vol flushed	: BVWSXO
Wet clay volume	: VWCL	Dry Clay volume	: VDCL
Bound water sat	: SWB	Volume silt	: VSILT
Volume shale	: VSHALE	Logic flag	: PHIFLAG
Matrix density	: RHOMA	Sonic matrix	: DTMA
Coal Volume	: VCOAL	Salt volume	: VSALT
m fom EPT/MSFL	: Mvar	Hydrocarbon den	: RHOHY

Zone number 1 Top : 3072.00 Bottom : 3508.02

Rw	: 0.4	Rw Temp	: 100.	Rmf	: 0.047
Rmf Temp	: 14.8	Rw bound	: 0.1	Rwb Temp	: 100.
Rmf bound	: 0.1	Rmfb Temp	: 100.	Rho Sxo zone	:
Salin Sxo zone	:	Rho Wet Clay	: 2.85	Rho Dry Clay	: 2.95
Neu Wet Clay	: 0.28	Hc Den	: 0.3	Neu Hc HI	:
Den Hc app	:	GD source	: Param	Rho GD	: 2.68
Rho GD max	: 2.95	Rho GD min	: 2.51	Neu Form Sal	: No
Neu Log Cont	: Schlumb	Neu Tool Type	: CNL	Porosity Method	: Neu Den
Variable Hc Den	: No	Variable GD	: Yes	Variable Vcl	: No
Mineral Model	: ss/ls/dol	OBM ?	: No	Phi max	: 0.3
Delta Phi max	: 0.15	m vari wth Vcl	: No	Vcl cutoff	: 0.6
Sxo Limit ?	: No	Bad Hole Disc ?	: No	Sat Equation	: Dual water
a factor	: 1.	m exponent	: 1.78	n exponent	: 1.9
Sxo Method	: Rxo	m source	: Shell	n source	: Param
Coal Logic	: No	Salt Logic	: No	PhiT Clay	:

Zone number 2 Pretty Hill Top : 3508.02 Bottom : 3694.00

Rw	: 0.8	Rw Temp	: 100.	Rmf	: 0.047
Rmf Temp	: 14.8	Rw bound	: 0.2	Rwb Temp	: 100.
Rmf bound	: 0.2	Rmfb Temp	: 100.	Rho Sxo zone	:
Salin Sxo zone	:	Rho Wet Clay	: 2.85	Rho Dry Clay	: 2.95
Neu Wet Clay	: 0.28	Hc Den	: 0.3	Neu Hc HI	:
Den Hc app	:	GD source	: Param	Rho GD	: 2.68
Rho GD max	: 2.95	Rho GD min	: 2.51	Neu Form Sal	: No
Neu Log Cont	: Schlumb	Neu Tool Type	: CNL	Porosity Method	: Neu Den
Variable Hc Den	: No	Variable GD	: Yes	Variable Vcl	: No
Mineral Model	: ss/ls/dol	OBM ?	: No	Phi max	: 0.3
Delta Phi max	: 0.15	m vari wth Vcl	: No	Vcl cutoff	: 0.6
Sxo Limit ?	: No	Bad Hole Disc ?	: No	Sat Equation	: Dual water
a factor	: 1.	m exponent	: 1.78	n exponent	: 1.9
Sxo Method	: Rxo	m source	: Shell	n source	: Param
Coal Logic	: No	Salt Logic	: No	PhiT Clay	:

Petrophysical Analysis

Glenaire-1ST1

PEP-160, Otway Basin

AUSTRALIA

Prepared for:

Beach Petroleum N.L.

CONFIDENTIAL

The Saros Group Pty Ltd
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Stephen Pell, May, 2007

the saros group
Our experts. Your results.

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	Name	**Position**	**Signature**	**Date**
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Reviewed by:	Paul Theologou	Petrophysicist		28/02/2007

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EXECUTIVE SUMMARY

The Glenaire-1ST1 well is located in the onshore Otway Basin, about 33km north east of Mount Gambier and approximately 24km southeast of the Katnook Gas Field within PEP-160. The primary objective target of the well was the Pretty Hill Formation.

Beach Petroleum contracted The Saros Group to undertake a petrophysical analysis of the Glenaire-1ST1 well over the interval Laira Formation to Pretty Hill Formation. The principal objectives of this study were the definition of reservoir properties including porosity, water saturation and permeability using a consistent petrophysical model.

Wireline data from Glenaire-1st1 was interpreted using MULTIMIN software, which is an optimising petrophysical module within GEOLOG6. Optimising petrophysics relies on obtaining the best match between a model, the measured data and the predicted results. Based on regional geological information, lithology described in the mudlogs from the following is a list of the volume components that were allowed in the models that were used in this study.

Volume Components

Framework:	***Clays:***	***Fluids:***
Quartz	Kaolinite	Formation Brine
Calcite	Chlorite	Gas
K-Feldspar	Illite	Special Fluid (barite in drill mud)

Input Curves
GR, TNPH, DT, RHOB, U, CT, CXO

Formation water resistivity (Rw) for the Glenaire-1ST1 well is unknown and as such is the key uncertainty in this analysis. In an attempt to model this uncertainty two different petrophysical analysis were conducted using different Rw values.

The first analysis uses a formation water resistivity of 0.38 Ωm @ 25°C consistent with laboratory testing of waters produced from cased hole testing of the Sawpit Sandstone in the nearby Wynn-1 well. This value is consistent with that derived from mid case Pickett plots in clean water saturated intervals of Glenaire-1_ST-1. The second analysis uses a formation water resistivity of 0.26 Ωm @ 25°C consistent with laboratory testing of waters produced from cased hole testing of the Pretty Hill Sandstone in the nearby Katnook 2 and 3 wells. This value is consistent with that derived from the lowside case Pickett plots in clean water saturated intervals of Glenaire-1_ST-1.

Permeability values calculated in this analysis were derived using relationships developed from RCA measurements taken in the nearby Wynn-1 and Haselgrove-2 wells.

Pay, Sand and Reservoir Summaries over the oil bearing intervals have been calculated and are included in Appendices 1 and 2. The Tables below summarises the mid case pay intervals for the two different Rw values used.

Interval	DEPTH_TOP (metres)	DEPTH_BASE (metres)	GROSS (metres)	NET (metres)	PHIT (v/v)	SWT (v/v)	VOL_WETCLAY (v/v)	KINT (mD)
LAIRA FORMATION	3400.00	3508.00	108.00	0.00	-	-	-	-
PRETTY HILL FORMATION	3508.00	3705.00	197.00	4.42	0.13	0.53	0.11	2.45
WELL	3400.00	3705.00	305.00	4.42	0.13	0.53	0.11	2.45

Lowside Case (Rw of 0.38 Ωm @ 25°C) consistent with Sawpit Sandstone

Interval	DEPTH_TOP (metres)	DEPTH_BASE (metres)	GROSS (metres)	NET (metres)	PHIT (v/v)	SWT (v/v)	VOL_WETCLAY (v/v)	KINT (mD)
LAIRA FORMATION	3400.00	3508.00	108.00	0.00	-	-	-	-
PRETTY HILL FORMATION	3508.00	3705.00	197.00	8.8	0.12	0.50	0.11	1.9
WELL	3400.00	3705.00	305.00	8.8	0.12	0.50	0.11	1.9

Highside Case (Rw of 0.26 Ωm @ 25°C) consistent with Pretty Hill Sandstone

The Pretty Hill Sandstone intersected in Glenaire-1 ST1 is of moderate quality only with sandstone intervals characterised by moderate porosity with generally low permeability (indicating possible clay choked pore throats). The upper Pretty Hill Sandstone interval (3512 – 3535m) shows the most promise with 4m of hydrocarbon pay (mid case) interpreted in analysis 1 (Rw 0.38 Ωm @ 25°C) and 8.8m (mid case) interpreted in analysis 2 (Rw 0.26 Ωm @ 25°C). Average reservoir properties range from 12 – 13% PHIT, 50 – 53% SWT, 11% VSH and 1.9 – 2.4mD KINT.

The other sands within the Pretty Hill are interpreted to be largely water saturated. These findings are supported by mud gas readings which are at their maximum in the upper Pretty Hill.

Resolution of thin beds of better quality reservoir within the upper Pretty Hill Sandstone may be possible using the FMS tool, however the log quality from this tool may have been degraded by the poor hole conditions.

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Figure 3. Pickett Plot analysis of the lower Pretty Hill Formation interval in Glenaire-1_ST-1.

INTRODUCTION

The Glenaire-1_ST-1 well is located in the onshore Otway Basin, about 33km north east of Mount Gambier and approximately 24km southeast of the Katnook Gas Field within PEP-160. The primary objective geological interval of the well was the Pretty Hill Formation.

The Glenaire-1 well was located 24km northwest of Katnook-4 and was designed to test a fault dependant 3-way dip structure. The well spudded on 08/09/2006 and was drilled to a depth of 3037m before the decision was taken to sidetrack the well due to excessive deviation. The 6" sidetrack Glenaire-1_ST-1 was entered on 03/10/2006 and reached TD in the lower Pretty Hill Formation (3700 mRT) on 26/10/2006.

Beach Petroleum contracted The Saros Group to undertake a petrophysical analysis of the Glenaire-1_ST-1 well over the interval Laira Formation to Pretty Hill Formation. The principal objectives of this study were the definition of reservoir properties including porosity, water saturation and permeability using a consistent petrophysical model.

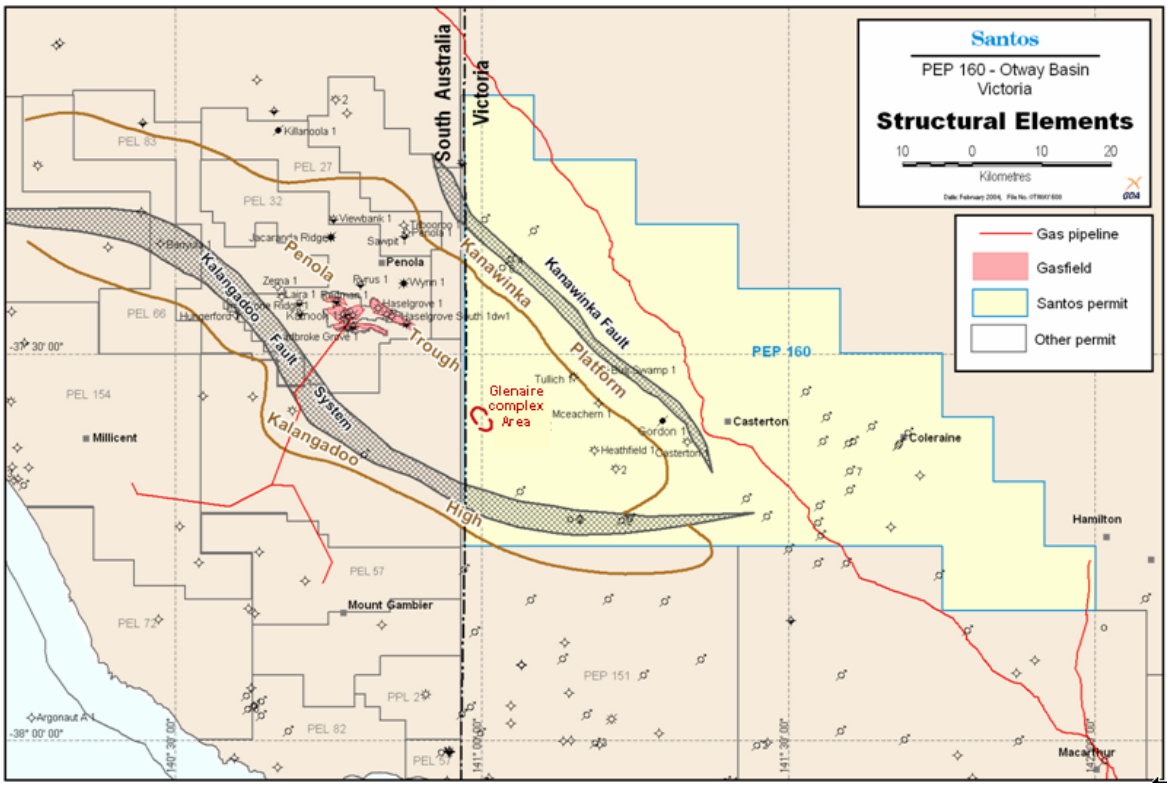

Figure 1. Location map of Glenaire-1_ST-1.

DATA AVAILABILITY AND QUALITY

Mudlog & Drilling Data

Drilling and mudlog data was supplied by Beach Petroleum in the form of PDF and ASCII data files. Ditch cuttings were collected and described whilst drilling this well. Collection was made at 3m intervals through the formations of interest.

Core Data

No sidewall or full-hole core samples were acquired in Glenaire-1_ST-1.

Wireline Log Data

Wireline logging was performed by Schlumberger. A summary of the wireline log data acquired by the operator is summarised in Table 1. LAS data was supplied by Beach containing curves and parameters from each of the logging runs, along with digital copies of log headers and parameters.

Well	Suite/Run	Tool String	Interval (mRT)
Glenaire-1	1 / 1	HALS-BHC-PEX	0 – 3002
Glenaire-1_ST-1	2 / 1	BHC-PEX-GR	2997 – 3700
Glenaire-1_ST-1	2 / 2	DLT-GR-SP	2997 – 3700
Glenaire-1_ST-1	3 / 1	FMS-GR-GPIT	2996 – 3700

Table 1. Summary of wireline log data acquired in Glenaire-1 / ST1

Formation Test Data

No formation testing has been conducted to date in Glenaire-1_ST-1.

BOREHOLE DATA

Hole Conditions & Log Quality

In Glenaire-1 17 ½" surface hole was drilled to 307m and 13 3/8" casing was set. 12 ¼" hole was then drilled to 1255m and 9 5/8" casing set before the well was drilled to 3002m using an 8 ½" bit. Following logging the well was drilled to 3230m using an 6" bit before the decision was taken to sidetrack the well due to excessive deviation. The 6" sidetrack Glenaire-1_ST-1 reached TD in the lower Pretty Hill Formation (3700 mRT). The hole condition throughout the intervals of interest in Glenaire-1_ST-1 was considered to be of only moderate quality with significant washout occurring across the major sand intervals. This breakout together with the use of barite in the drilling fluid has resulted in a significant deterioration in the log quality of measurements derived from pad tools such as RXOZ, PEFZ and RHOZ. A badhole flag was been created across these intervals. Hole condition across the shalier intervals in Glenaire-1_ST-1 was of good quality.

Mud Properties

Table 2 is a summary of the properties of the mud used for drilling the 6" in section of Glenaire-1_ST-1.

SUITE	Glenaire-1_ST-1
TYPE	KCL-PHPA
DENSITY (gm/cm3)	1.321
VISCOSITY (sec/qt)	39
KCl (%)	8.0
pH	9.5
Rm (ohm.m)	0.054 ohm.m @ 15 degC
Rmf (ohm.m)	0.047 ohm.m @ 15 degC
Rmc (ohm.m)	0.068 ohm.m @ 15 degC

Table 2. Mud Properties.

FORMATION LITHOLOGY

The sandstones of the Pretty Hill Formation were deposited within a high energy, braided fluvial system. The major lithological units intersected in Glenaire-1ST1 are summarised below. The Pretty Hill sequence consists of predominantly sandstone with interbedded siltstone. From wellsite cuttings descriptions the sandstone is an off-white to bluish grey to very pale brown litharenite, clear to translucent, very fine to coarse with occasional very coarse, predominantly fine to medium grained, moderately to poorly sorted, subangular to subrounded with minor siliceous cement and moderate to abundant pale brown to white argillaceous matrix. Coarser grains are generally loose. Altered feldspar is common as are lithic clasts and grains, mica, pink-red and orange-red garnets, carbonaceous specks and laminations. Visual porosity ranges from poor to fair, with some of the coarser grained aggregates having good porosity.

The siltstone is typically medium brown to greyish brown to dark grey, moderately hard, sub-fissile to blocky, very arenaceous in part grading to very fine grained sandstone, argillaceous in part grading to silty claystone, carbonaceous in part, micro-micaceous.

Figure 2 shows representative sample and show descriptions across the upper Pretty Hill Formation sandstone from the mudlogs.

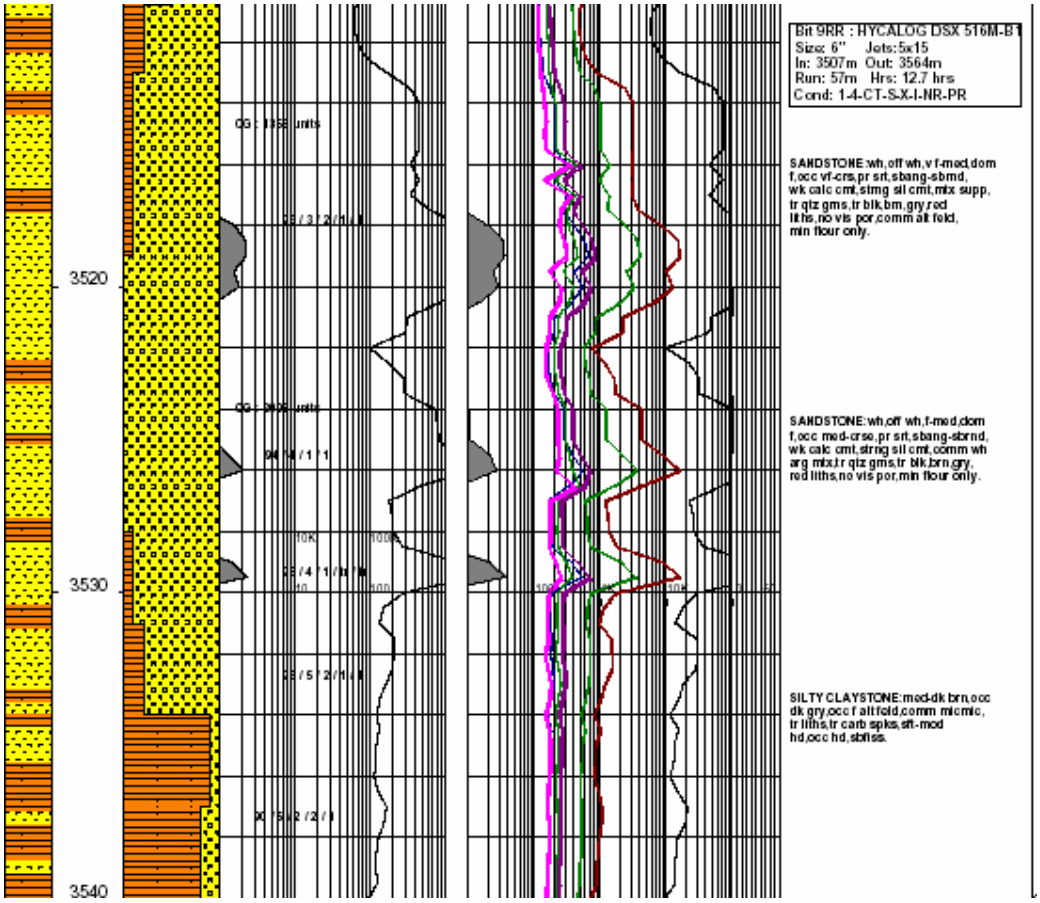

Figure 2. Mudlog response through the upper Pretty Hill Formation interval in Glenaire-1_ST-1.

LOG ANALYSIS METHODOLOGY

Preparation

Wireline data was supplied by the Beach Petroleum in LAS format. The data was loaded into Geolog6 in order to perform the petrophysical analysis. All wireline data was quality controlled including any necessary depth-shifting or de-spiking prior to performing this analysis. The log quality across the intervals of interest in Glenaire-1_ST-1 was considered to be of only moderate quality due to poor hole conditions. This poor hole condition together with the use of barite in the drilling fluid has resulted in a significant deterioration in the log quality of measurements derived from pad tools such as RXOZ, PEFZ and RHOZ. A badhole flag was been created across these intervals. Log quality through the shalier intervals in Glenaire-1_ST-1 was of good quality.

Environmental Corrections

Full environmental corrections have been applied to the logs where necessary either by the wireline logging contractor or using Geolog6 implementation of the Schlumberger correction charts. In addition the ECGR log was corrected for the KCl % in the drilling mud.

Interpretation Technique

The Petrophysical evaluation was undertaken using MULTIMIN software, which is an optimising petrophysical module within GEOLOG6. Optimising petrophysics relies on obtaining the best match between a model, the measured data and the predicted results. For each logging tool, response equations are used to define the influence of each of the mineral and fluid volumes. The mineral and fluid parameters and the response equations are then used to reconstruct the actual wireline measurements and predict the volumes of minerals and fluids present within the reservoir. For example we can define the response of the density tool to the formation if we know the response (or endpoint parameters) of each of the components that make up the formation e.g. the following would be the density response of a formation containing oil and water in the pore space, and having a matrix of quartz and albite.

$$\hat{\rho}_b = \rho_{oil} v_{oil} + \rho_{fw} v_{fw} + \rho_{qtz} v_{qtz} + \rho_{alb} v_{alb}$$

Such equations can be written for each of the wireline measurements. These equations are then solved simultaneously to define the best combination of various volumes, such that the original log measurements are as closely matched as possible.

Lithology

MULTIMIN relies on the knowledge of the logging response of the various known minerals and fluids that may occur within the formation under investigation. These responses are generally constant from basin to basin (with some exceptions) and are fairly well identified through the publication of research into the topic. Based on petrological reports from the nearby Wynn-1 and Jacaranda Ridge-1 wells, regional geological information and the lithology described in the mudlogs the following is a list of the volume components that were allowed in the models that were used in this study.

Volume Components

Framework:	***Clays:***	***Fluids:***
Quartz	Kaolinite	Formation Brine
Calcite	Chlorite	Gas
K-Feldspar	Illite	Special Fluid (barite in drill mud)

Input Curves
GR, TNPH, DT, RHOB, U, CT, CXO

Table 3. Summary of volume components and input curves in the Multimin model

Whilst the selection of minerals chosen above does not represent the complete list of minerals found within the formation, these minerals are considered to best represent the different minerals types with distinct petrophysical properties that can be discriminated using the available wireline data.

The MULTIMIN technique allows a frame-by-frame estimation of the mineral components that are present within the formation. The results are displayed as depth plots in Enclosures 1 and 2 and show the relative distribution of the mineral components through the formation. Multimin reports summarising the parameters used are presented in Appendix 2. In the Glenaire-1ST1 well borehole breakout has precluded the use of the density tool across some intervals. In these zones calcite was not included in the multimin model and a constraint was applied to the calculated volumes of chlorite and kaolinite (1*VOL_CHLORITE = 2*VOL_KAOLINITE). This relationship is based on petrological reports from offset wells and is consistent with average calculated clay volumes in sands with good hole conditions.

It is important to note that Multimin estimates the volume of mineral components (clays and framework grains) which means that Vsh is not actually calculated as defined by typical deterministic analyses. If you look at typical shales across the world, they contain on average around 40% quartz, and 60% clay minerals, which surprises many people. The calculated volume VOL_WETCLAY is the sum of all the dry clay volumes and the associated clay bound water volumes. This value will generally be less than the Vsh that would be estimated from a deterministic technique if applied over the same interval. This technique is used as it allows better modelling of the formation conductivity using the Dual-Water model, which requires estimates of the clay bound water volume.

Formation Brine

The key uncertainty in these analyses is the calculation of water saturations (Sw). Formation water resistivity (Rw) for the Glenaire-1ST1 well is unknown and as such is the key uncertainty in this analysis. In an attempt to model this uncertainty two different petrophysical analysis were conducted using different Rw values.

The first analysis uses a formation water resistivity of 0.38 Ωm @ 25°C consistent with laboratory testing of waters produced from cased hole testing of the Sawpit Sandstone in the nearby Wynn-1 well. This value is consistent with that derived from mid case Pickett plots in clean water saturated intervals of Glenaire-1_ST-1 (see Figure 3).

The second analysis uses a formation water resistivity of 0.26 Ωm @ 25°C consistent with laboratory testing of waters produced from cased hole testing of the Pretty Hill Sandstone in the nearby Katnook 2 and 3 wells. This value is consistent with that derived from the lowside case Pickett plots in clean water saturated intervals of Glenaire-1_ST-1.

Source: Well	Source: Test Type	Source: Sample	Rw @ Temp (Ωm @ 25°C)	Comment
Wynn-1	CHDST1	Initial cleanup flow	0.4	Sawpit Sandstone
Wynn-1	CHDST1	Open flow	0.4	Sawpit Sandstone
Wynn-1	CHDST3	Initial cleanup flow	0.34	Sawpit Sandstone
Wynn-1	CHDST3	Open flow 1	0.35	Sawpit Sandstone
Wynn-1	CHDST3	Open flow 2	0.43	Sawpit Sandstone
Wynn-1	CHDST5	Ex-Separator	0.32	Sawpit Sandstone
Wynn-1	Pickett Plot	Mid Case	0.39	
Katnook 2	DST 1	mid	0.08	Pretty Hill Sandstone
Katnook 2	DST 8	mid	0.36	Pretty Hill Sandstone
Katnook 2	DST 9	sample 1	0.31	Pretty Hill Sandstone
Katnook 2	DST 9	sample 2	0.22	Pretty Hill Sandstone
Katnook 2	DST 9	sample 3	0.15	Pretty Hill Sandstone
Katnook 2	DST 9	sample 4	0.13	Pretty Hill Sandstone
Katnook 2	DST 9	sample 5	0.11	Pretty Hill Sandstone
Katnook 2	DST 1	mid	0.17	Pretty Hill Sandstone
Katnook 3	DST 2	mid	0.82	Pretty Hill Sandstone
Katnook 3	DST 1	mid	0.08	Pretty Hill Sandstone
Glenaire-1_ST-1	Pickett Plot	Mid Case	0.38	
Glenaire-1_ST-1	Pickett Plot	Lowside Case	0.22	Value used in quicklook
Glenaire-1_ST-1	**Rw VALUE 1**	**Sawpit Sandstone**	**0.38**	
Glenaire-1_ST-1	**Rw VALUE 2**	**Pretty Hill**	**0.26**	

Table 4. Rw values used for analysis of Glenaire-1_ST-1

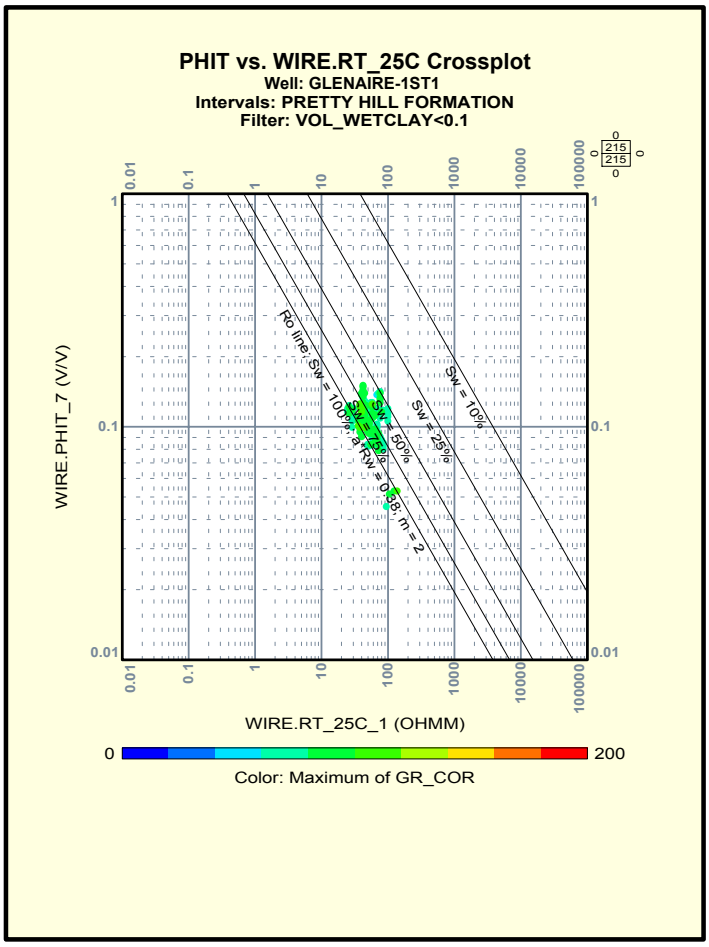

Figure 3. Pickett Plot analysis of the lower Pretty Hill Formation interval in Glenaire-1_ST-1.

Saturation equation parameters

Due to the lack of local SCAL data values of 2.0 and 2.0 were assumed to be representative of the clean sands under investigation. The uncertainty introduced by this assumption is considered to be minimal when compared to that associated with the uncertain value of formation water resistivity Rw in this well.

CEC values of 0.25 M/g, 0.15M/g and 0.05 M/g for illite, chlorite and kaolinite respectively were used for this analysis.

Porosity Determination

From MULTIMIN Analysis

Total porosity is calculated from the MULTIMIN analysis from a combination of the individual fluid components, which in the unflushed zone corresponds to;

$$\phi_t = V_{freewat} + V_{hc} + V_{bndwat}$$

Where;

$V_{freewat}$ = volume of free water

V_{bndwat} = volume of bound water

V_{hc} = volume of hydrocarbons.

Saturation Evaluation

The interpretation presented in this report has utilised MULTIMIN for all interpretations, including water saturations. The following is a description of the conductivity model used in MULTIMIN for the estimation of water saturation.

Dual-Water Equation

Water saturation in this study has been determined within the MULTIMIN package using the Dual Water equation. The Dual water model uses the concept of cation exchange capacity to explain shaly sand conductivity. This model assumes that the waters in a formation can be considered to be of two kinds – a free water of normal salinity and clay bound water of altered salinity and increased conductivity. The dual-water equation is as follows;

$$C_t = \phi_t^{m_0} S_{wt}^{n_0} \left[C_{fw} + \frac{\alpha v_q^h Q_v}{S_w^t} \left(C_{bw} - C_{fw} \right) \right]$$

Where;

- C_t = *total conductivity (mho/m)*
- C_{bw} = *clay bound water conductivity (mho/m)*
- C_{fw} = *free water conductivity (mho/m)*
- m_0 = *dual-water cementation exponent*
- n_0 = *dual-water saturation exponent*
- Q_v = *concentration of cations (meq/cm^3)*
- V_q^h = *volume of clay bound water (cm^3/meq)*
- S_{wt} = *water saturation of total porosity (v/v)*
- α = *expansion factor for diffuse layer*
- ϕ_t = *total porosity (v/v)*

Parameters for the dual-water equation have been calculated using the following relationships;

$$\alpha = \sqrt{\frac{0.35}{< n >}} \qquad C_{wb} = \frac{\beta}{\alpha v_q^H}$$

$$\beta = 2.05 \frac{(T + 8.5)}{(22 + 8.5)} \qquad v_q^H = 0.3 \frac{96}{(T + 25)}$$

Where;

T = *temperature (^{0}C)*

β = *equivalent conductivity of Na counter ions @ 22^{0}C (S/m)*

<n> = *brine salt concentration (mol/dm^3)*

Permeability Evaluation

An intrinsic permeability log was derived via relationships developed using RCA measurements from the adjacent Wynn-1 well where an 18m full diameter core was taken in the Sawpit Sandstone.

The following shows the equation as used here:

$$Y = 0.112 + 0.045 * \log_{10} X$$

Where Y = ambient core porosity (ϕ)

X = ambient core permeability (mD)

It is unclear from the core analysis report in Wynn-1 the sample preparation methods and measurement techniques used to acquire this data so the permeability log derived in Glenaire-1 ST1 should be treated as indicative of relative trends only. It is also noted here that this relationship is based on ambient not overburden corrected data and as such may slightly over estimate the in-situ permeability. In addition to this it is noted that the Sawpit Sandstone sampled in Wynn-1 may not be applicable to the Pretty Hill Sandstone in Glenaire 1 ST1.

For these reasons a second permeability was calculated based on core acquired in the Pretty Hill Sandstone from the nearby Haselgrove 2 well and in shown on Enclosure 1 (KINT_H2).

The following shows this second equation:

$$Y = 0.1567 + 0.0686 * \log_{10} X$$

Permeabilities calculated using the Haselgrove-2 relationship are lower than those based on Wynn-1.

RESERVOIR AND PAY SUMMARIES

Appendix 1 and 2 give detailed information on the calculated properties for the reservoir intervals. Table 5 shows the cut-offs which have been applied. To provide some indication of the impact of changes to these cut-off numbers three cases have been run (high-side, mid-case, low-side) using varying porosity and VSH values. Appendices 1 and 2 provide a summary of pay parameters for each well. It is noted here that permeabilities quoted in these Tables are derived using the more optimistic permeability relationship (based on Wynn-1 core).

Wellname	PHIE (High-side (%)	PHIE (mid-case) (%)	PHIE (low-side) (%)	SWT (%)	VCL (High-side) (%)	VCL (Mid-case) (%)	VCL (Low-side) (%)
Glenaire-1_ST-1	5.0	8.0	10.0	60	40	30	20

Table 5. Summary of cut-offs applied to Glenaire-1_ST-1

APPENDIX 1: RESERVOIR AND PAY SUMMARIES

P50 - MID CASE

0.38 Ωm @ 25°C - Sawpit Sandstone

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .08 V/V
VOL_WETCLAY <= .3 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	KINTH MDM	PHIT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	17.27	0.09	2.01	27.91	0.12	0.10	0.10	1.62	1.26
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	17.27	0.06	2.01	27.91	0.12	0.10	0.10	1.62	1.26

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .08 V/V
SWT <= 0.6 V/V
VOL_WETCLAY <= .3 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	BVWH (V/V)M	HVOLH (V/V)M	KINTH MDM	PHIT_AV V/V	SWT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD	SWE_AM V/V
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	4.42	0.02	0.56	0.30	0.27	10.82	0.13	0.53	0.11	0.11	2.45	2.17	0.44
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	4.42	0.01	0.56	0.30	0.27	10.82	0.13	0.53	0.11	0.11	2.45	2.17	0.44

P90 - LOW CASE

0.38 Ωm @ 25°C - Sawpit Sandstone

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .10 V/V
VOL_WETCLAY <= .2 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	KINTH MDM	PHIT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	7.37	0.04	0.95	19.57	0.13	0.11	0.09	2.66	2.41
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	7.37	0.02	0.95	19.57	0.13	0.11	0.09	2.66	2.41

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .10 V/V
SWT <= 0.6 V/V
VOL_WETCLAY <= .2 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	BVWH (V/V)M	HVOLH (V/V)M	KINTH MDM	PHIT_AV V/V	SWT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD	SWE_AM V/V
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	3.15	0.02	0.41	0.22	0.19	9.19	0.13	0.54	0.11	0.10	2.92	2.72	0.47
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	3.15	0.01	0.41	0.22	0.19	9.19	0.13	0.54	0.11	0.10	2.92	2.72	0.47

P10 - HIGH CASE

0.38 Ωm @ 25°C - Sawpit Sandstone

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .05 V/V
VOL_WETCLAY <= .4 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	KINTH MDM	PHIT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.81	0.01	0.06	0.15	0.08	0.06	0.13	0.18	0.18
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	35.81	0.18	3.64	33.73	0.10	0.08	0.12	0.94	0.59
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	36.63	0.12	3.71	33.88	0.10	0.08	0.12	0.93	0.57

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .05 V/V
SWT <= 0.6 V/V
VOL_WETCLAY <= .4 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	BVWH (V/V)M	HVOLH (V/V)M	KINTH MDM	PHIT_AV V/V	SWT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD	SWE_AM V/V
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	6.45	0.03	0.73	0.39	0.34	11.36	0.11	0.53	0.09	0.12	1.76	1.09	0.42
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	6.45	0.02	0.73	0.39	0.34	11.36	0.11	0.53	0.09	0.12	1.76	1.09	0.42

P50 - MID CASE

0.26 Ωm @ 25°C - Pretty Hill Sandstone

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .08 V/V
VOL_WETCLAY <= .3 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	KINTH MDM	PHIT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	22.91	0.12	2.48	25.27	0.11	0.10	0.11	1.10	0.82
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	22.91	0.08	2.48	25.27	0.11	0.10	0.11	1.10	0.82

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .08 V/V
SWT <= 0.6 V/V
VOL_WETCLAY <= .3 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	BVWH (V/V)M	HVOLH (V/V)M	KINTH MDM	PHIT_AV V/V	SWT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD	SWE_AM V/V
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	8.79	0.05	1.06	0.53	0.53	16.56	0.12	0.50	0.11	0.11	1.88	1.55	0.46
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	8.79	0.03	1.06	0.53	0.53	16.56	0.12	0.50	0.11	0.11	1.88	1.55	0.46

P90 - LOW CASE

0.26 Ωm @ 25°C - Pretty Hill Sandstone

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .10 V/V
VOL_WETCLAY <= .2 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	KINTH MDM	PHIT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	9.30	0.05	1.15	18.32	0.12	0.11	0.10	1.97	1.78
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	9.30	0.03	1.15	18.32	0.12	0.11	0.10	1.97	1.78

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .10 V/V
SWT <= 0.6 V/V
VOL_WETCLAY <= .2 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	BVWH (V/V)M	HVOLH (V/V)M	KINTH MDM	PHIT_AV V/V	SWT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD	SWE_AM V/V
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	6.81	0.04	0.86	0.43	0.44	15.41	0.13	0.49	0.12	0.11	2.26	2.10	0.45
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	6.81	0.02	0.86	0.43	0.44	15.41	0.13	0.49	0.12	0.11	2.26	2.10	0.45

P10 - HIGH CASE

0.26 Ωm @ 25°C - Pretty Hill Sandstone

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .05 V/V
VOL_WETCLAY <= .4 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	KINTH MDM	PHIT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	2.79	0.03	0.22	0.53	0.08	0.06	0.21	0.19	0.17
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	46.48	0.24	4.30	29.58	0.09	0.08	0.13	0.64	0.37
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	49.28	0.16	4.52	30.11	0.09	0.08	0.13	0.61	0.35

Pay Summary Specification: mmin_glen
Primary reference for reporting and sample control: DEPTH
Cutoff details:-
PHIE >= .05 V/V
SWT <= 0.6 V/V
VOL_WETCLAY <= .4 V/V
COAL < 1
Lumping details:-
Standalone Minimum Thickness: 0.1524 METRES
Include Minimum Thickness: 0.1524 METRES
Maximum Separation: 0.1524 METRES

Well	Interval	DEPTH_TOP METRES	DEPTH_BASE METRES	GROSS METRES	NET METRES	NET_TO_GROSS M/M	PHITH (V/V)M	BVWH (V/V)M	HVOLH (V/V)M	KINTH MDM	PHIT_AV V/V	SWT_AV V/V	PHIE_AM V/V	VOL_WETCLAY_AM V/V	KINT_AM MD	KINT_GM MD	SWE_AM V/V
GLENAIRE-1ST1	LAIRA FORMATION	3400.00	3508.00	108.00	0.36	0.00	0.03	0.02	0.02	0.10	0.09	0.50	0.06	0.34	0.28	0.27	0.30
GLENAIRE-1ST1	PRETTY HILL FORMATION	3508.00	3705.00	197.00	13.46	0.07	1.43	0.72	0.71	17.48	0.11	0.51	0.10	0.12	1.30	0.74	0.44
GLENAIRE-1ST1	WELL	3400.00	3705.00	305.00	13.82	0.05	1.46	0.74	0.72	17.58	0.11	0.51	0.09	0.13	1.27	0.72	0.44

APPENDIX 2: MULTIMIN REPORTS

MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval LAIRA FORMATION (3400.04 - 3507.99 metres) Project beach

Reported by stephen on 22-Feb-2007 at 11:56
Analysed by stephen on 22-Feb-2007 at 10:42

MODELS:

Type	Name	Cond#	Cutoff	Expression
Primary	GLENAIRE_SAND	5.562	10.0	
Secondary	GLENAIRE_BADH	2.783	10.0	badhole
Secondary	GLENAIRE_SHALE	7.314	10.0	vol_wetclay>0.4

FORMATION FLUID PARAMETERS:

Fluid properties option = DEPTH
Oil Gravity Degrees API = 30.00 dapi Gas specific gravity = 0.650
Rws = 0.3800 @ 25.00 degC Cwbs = - @ - degF Rmfs = 0.0470 @ 14.80 degC

BOREHOLE PARAMETERS:

Mud base = WATER Mud density = 11.024 lb/g KCl concentration of mud = 8.00 %
SHT = - BHT = 133.00 degC
Rms = 0.0540 @ 14.80 degC Rmcs = 0.068 @ 14.80 degC Total depth = 3702.50 metres

Average temperature of 125.62 degC by TLI/BLI method.
Average pressure of 6489.83 psi by MUD_DENS method.

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MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval LAIRA FORMATION (3400.04 - 3507.99 metres) Project beach

PRIMARY MODEL GLENAIRE_SAND:
Cementation factor m = 2.000 Saturation exponent n = 2.000 Linear dual-water w = 2.00
Expansion of clay bound water is enabled.

Component	QUARTZ	ORTHOCL	KAOLIN	CHLOR	XGAS	XBNDWAT	XFREWAT	XSPCFLU	UGAS	UBNDWAT	UFREWAT
Error of prediction	0.0375	0.0424	0.1471	0.0975	0.0218	0.0107	0.0319	0.0020	0.0415	0.0125	0.0362

EQUATION RESPONSES:

Log	Method	Uncertainty											
Formation density [G/C3]		0.0200	2.650	2.570	2.620	3.420	0.108	1.133	1.133	4.084	0.000	0.000	0.000
RHOZ	Linear												
Neutron [V/V]		0.0140	-0.050	-0.006	0.451	0.500	0.495	0.831	0.831	-0.002	0.000	0.000	0.000
HTNP	Linear												
Sonic transit time [US/F]		1.9507	50.5	53.5	85.3	85.3	250.0	189.0	189.0	189.0	0.0	0.0	0.0
DT	Linear												
Photoelectric absorption [B/C3]		0.3200	5.04	8.71	5.38	27.17	0.03	1.64	1.64	1065.00	0.00	0.00	0.00
U	Linear												
Total gamma [GAPI]		6.0000	25.0	280.0	110.0	70.0	0.0	0.0	38.4	0.0	0.0	0.0	0.0
ECGR_COR	Linear												
Unflushed conductivity [MH/M]		0.0866I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.98	8.33
CT	Dual-water nonlinear												
Flushed conductivity [MH/M]		0.2786I	0.00	0.00	0.00	0.00	0.00	39.77	86.24	0.00	0.00	0.00	0.00
CXO	Dual-water nonlinear												

CONSTRAINTS:

	Value	Type	Uncertainty											
<PROG UNITY>	1.000	Tool	0.0100	1.000	1.000	1.000	1.000	0.000	0.000	0.000	0.000	1.000	1.000	1.000
<PROG POROSITY>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	1.000	1.000	1.000	1.000	-1.000	-1.000	-1.000
<PROG X BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.069	0.136	0.000	-1.000	0.000	0.000	0.000	0.000	0.000
<PROG U BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.267	0.522	0.000	0.000	0.000	0.000	0.000	-1.000	0.000
<PROG WATER MUD>	0.000	<=	-	0.000	0.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	-1.000	-1.000

PROPERTIES AND BOUNDS:

Mineral grain density	2.650	2.570	2.620	3.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Mineral cation exchange capacity	0.000	0.000	0.100	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lower Bound	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Upper Bound	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500	0.500	0.500

MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval LAIRA FORMATION (3400.04 - 3507.99 metres) Project beach

SECONDARY MODEL GLENAIRE_BADH:
Cementation factor m = 2.000 Saturation exponent n = 2.000 Linear dual-water w = 2.00
Expansion of clay bound water is enabled.

Component	QUARTZ	ORTHOCL	KAOLIN	CHLOR	XGAS	XBNDWAT	XFREWAT	UGAS	UBNDWAT	UFREWAT
Error of prediction	0.0377	0.0264	0.0186	0.0366	0.0150	0.0113	0.0329	0.0293	0.0146	0.0435

EQUATION RESPONSES:

Log	Method	Uncertainty										
Neutron [V/V]		0.0140	-0.050	-0.006	0.451	0.500	0.495	0.831	0.831	0.000	0.000	0.000
HTNP	Linear											
Sonic transit time [US/F]		1.9507	50.4	53.5	85.3	85.3	250.0	189.0	189.0	0.0	0.0	0.0
DT	Linear											
Total gamma [GAPI]		6.0000	25.0	280.0	110.0	70.0	0.0	0.0	38.4	0.0	0.0	0.0
ECGR_COR	Linear											
Unflushed conductivity [MH/M]		0.0866I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.98	8.33
CT	Dual-water nonlinear											

CONSTRAINTS:

	Value	Type	Uncertainty										
<PROG UNITY>	1.000	Tool	0.0100	1.000	1.000	1.000	1.000	0.000	0.000	0.000	1.000	1.000	1.000
<PROG POROSITY>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	1.000	1.000	1.000	-1.000	-1.000	-1.000
<PROG X BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.069	0.136	0.000	-1.000	0.000	0.000	0.000	0.000
<PROG U BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.267	0.522	0.000	0.000	0.000	0.000	-1.000	0.000
<PROG WATER MUD>	0.000	<=	-	0.000	0.000	0.000	0.000	0.000	1.000	1.000	0.000	-1.000	-1.000
<USER CONSTR1>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	-2.000	0.000	0.000	1.000	0.000	0.000
<USER CONSTR2>	0.000	Tool	0.0100	0.000	0.000	-2.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000

PROPERTIES AND BOUNDS:

Mineral grain density	3	3	3	3	0	0	0	0	0	0
Mineral cation exchange capacity	0.000	0.000	0.100	0.150	0.000	0.000	0.000	0.000	0.000	0.000

Lower Bound	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Upper Bound	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500	0.500

MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval LAIRA FORMATION (3400.04 - 3507.99 metres) Project beach

SECONDARY MODEL GLENAIRE_SHALE:
Cementation factor m = 2.000 Saturation exponent n = 2.000 Linear dual-water w = 2.00
Expansion of clay bound water is enabled.

Component	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
Error of prediction	0.9192	0.9213	0.0973	0.3683	0.1604	0.1721	0.0346	0.0481	0.0067	0.0605	0.0793

EQUATION RESPONSES:

Log	Method	Uncertainty	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
Formation density [G/C3]		0.0264	2.650	2.710	2.570	2.780	2.620	3.420	1.133	1.133	4.084	0.000	0.000
RHOZ	Linear												
Neutron [V/V]		0.0140	-0.050	0.000	-0.006	0.247	0.451	0.500	0.831	0.831	-0.002	0.000	0.000
HTNP	Linear												
Sonic transit time [US/F]		1.9507	50.5	47.8	53.5	85.3	85.3	85.3	189.0	189.0	189.0	0.0	0.0
DT	Linear												
Photoelectric absorption [B/C3]		0.3200	5.04	14.13	8.71	11.12	5.38	27.17	1.64	1.64	1065.00	0.00	0.00
U	Linear												
Total gamma [GAPI]		6.0000	25.0	11.0	280.0	160.0	110.0	70.0	0.0	38.4	0.0	0.0	0.0
ECGR_COR	Linear												
Unflushed conductivity [MH/M]		0.0866I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.98	8.33
CT	Dual-water nonlinear												
Flushed conductivity [MH/M]		0.2786I	0.00	0.00	0.00	0.00	0.00	0.00	39.77	86.24	0.00	0.00	0.00
CXO	Dual-water nonlinear												

CONSTRAINTS:

	Value	Type	Uncertainty	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
<PROG UNITY>	1.000	Tool	0.0100	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000	1.000	1.000
<PROG POROSITY>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	0.000	0.000	1.000	1.000	1.000	-1.000	-1.000
<PROG X BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.000	0.184	0.069	0.136	-1.000	0.000	0.000	0.000	0.000
<PROG U BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.000	0.708	0.267	0.522	0.000	0.000	0.000	-1.000	0.000

PROPERTIES AND BOUNDS:

	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
Mineral grain density	2.650	2.710	2.570	2.780	2.620	3.420	0.000	0.000	0.000	0.000	0.000
Mineral cation exchange capacity	0.000	0.000	0.000	0.250	0.100	0.150	0.000	0.000	0.000	0.000	0.000

Lower Bound	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Upper Bound	1.000	1.000	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500

MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval PRETTY HILL FORMATION (3508.04 - 3705.00 metres) Project beach

Reported by stephen on 22-Feb-2007 at 11:56
Analysed by stephen on 22-Feb-2007 at 10:42

MODELS:

Type	Name	Cond#	Cutoff	Expression
Primary	GLENAIRE_SAND	5.563	10.0	
Secondary	GLENAIRE_BADH	2.780	10.0	badhole
Secondary	GLENAIRE_SHALE	7.314	10.0	vol_wetclay>0.4

FORMATION FLUID PARAMETERS:

Fluid properties option = DEPTH
Oil Gravity Degrees API = 30.00 dapi Gas specific gravity = 0.650
Rws = 0.3800 @ 25.00 degC Cwbs = - @ - degF Rmfs = 0.0470 @ 14.80 degC

BOREHOLE PARAMETERS:

Mud base = WATER Mud density = 11.024 lb/g KCl concentration of mud = 8.00 %
SHT = - BHT = 133.00 degC
Rms = 0.0540 @ 14.80 degC Rmcs = 0.068 @ 14.80 degC Total depth = 3702.50 metres

Average temperature of 130.20 degC by TLI/BLI method.
Average pressure of 6776.36 psi by MUD_DENS method.

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MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval PRETTY HILL FORMATION (3508.04 - 3705.00 metres) Project beach

PRIMARY MODEL GLENAIRE_SAND:
Cementation factor m = 2.000 Saturation exponent n = 2.000 Linear dual-water w = 2.00
Expansion of clay bound water is enabled.

Component	QUARTZ	ORTHOCL	KAOLIN	CHLOR	XGAS	XBNDWAT	XFREWAT	XSPCFLU	UGAS	UBNDWAT	UFREWAT
Error of prediction	0.0374	0.0425	0.1472	0.0975	0.0219	0.0106	0.0319	0.0020	0.0415	0.0125	0.0362

EQUATION RESPONSES:

Log	Method	Uncertainty											
Formation density [G/C3]		0.0200	2.650	2.570	2.620	3.420	0.112	1.130	1.130	4.084	0.000	0.000	0.000
RHOZ	Linear												
Neutron [V/V]		0.0140	-0.050	-0.006	0.451	0.500	0.501	0.829	0.829	-0.002	0.000	0.000	0.000
HTNP	Linear												
Sonic transit time [US/F]		1.9507	50.5	53.5	85.3	85.3	250.0	189.0	189.0	189.0	0.0	0.0	0.0
DT	Linear												
Photoelectric absorption [B/C3]		0.3200	5.04	8.71	5.38	27.17	0.03	1.63	1.63	1065.00	0.00	0.00	0.00
U	Linear												
Total gamma [GAPI]		6.0000	25.0	280.0	110.0	70.0	0.0	0.0	38.4	0.0	0.0	0.0	0.0
ECGR_COR	Linear												
Unflushed conductivity [MH/M]		0.0879I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.57	8.59
CT	Dual-water nonlinear												
Flushed conductivity [MH/M]		0.2829I	0.00	0.00	0.00	0.00	0.00	41.57	88.92	0.00	0.00	0.00	0.00
CXO	Dual-water nonlinear												

CONSTRAINTS:

	Value	Type	Uncertainty											
<PROG UNITY>	1.000	Tool	0.0100	1.000	1.000	1.000	1.000	0.000	0.000	0.000	0.000	1.000	1.000	1.000
<PROG POROSITY>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	1.000	1.000	1.000	1.000	-1.000	-1.000	-1.000
<PROG X BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.069	0.136	0.000	-1.000	0.000	0.000	0.000	0.000	0.000
<PROG U BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.267	0.522	0.000	0.000	0.000	0.000	0.000	-1.000	0.000
<PROG WATER MUD>	0.000	<=	-	0.000	0.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	-1.000	-1.000

PROPERTIES AND BOUNDS:

Mineral grain density	2.650	2.570	2.620	3.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Mineral cation exchange capacity	0.000	0.000	0.100	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lower Bound	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Upper Bound	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500	0.500	0.500

MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval PRETTY HILL FORMATION (3508.04 - 3705.00 metres) Project beach

SECONDARY MODEL GLENAIRE_BADH:
Cementation factor m = 2.000 Saturation exponent n = 2.000 Linear dual-water w = 2.00
Expansion of clay bound water is enabled.

Component	QUARTZ	ORTHOCL	KAOLIN	CHLOR	XGAS	XBNDWAT	XFREWAT	UGAS	UBNDWAT	UFREWAT
Error of prediction	0.0376	0.0264	0.0185	0.0366	0.0150	0.0113	0.0328	0.0293	0.0146	0.0435

EQUATION RESPONSES:

Log	Method	Uncertainty										
Neutron [V/V]		0.0140	-0.050	-0.006	0.451	0.500	0.501	0.829	0.829	0.000	0.000	0.000
HTNP	Linear											
Sonic transit time [US/F]		1.9507	50.4	53.5	85.3	85.3	250.0	189.0	189.0	0.0	0.0	0.0
DT	Linear											
Total gamma [GAPI]		6.0000	25.0	280.0	110.0	70.0	0.0	0.0	38.4	0.0	0.0	0.0
ECGR_COR	Linear											
Unflushed conductivity [MH/M]		0.0879I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.57	8.59
CT	Dual-water nonlinear											

CONSTRAINTS:

	Value	Type	Uncertainty										
<PROG UNITY>	1.000	Tool	0.0100	1.000	1.000	1.000	1.000	0.000	0.000	0.000	1.000	1.000	1.000
<PROG POROSITY>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	1.000	1.000	1.000	-1.000	-1.000	-1.000
<PROG X BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.069	0.136	0.000	-1.000	0.000	0.000	0.000	0.000
<PROG U BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.267	0.522	0.000	0.000	0.000	0.000	-1.000	0.000
<PROG WATER MUD>	0.000	<=	-	0.000	0.000	0.000	0.000	0.000	1.000	1.000	0.000	-1.000	-1.000
<USER CONSTR1>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	-2.000	0.000	0.000	1.000	0.000	0.000
<USER CONSTR2>	0.000	Tool	0.0100	0.000	0.000	-2.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000

PROPERTIES AND BOUNDS:

Mineral grain density	3	3	3	3	0	0	0	0	0	0
Mineral cation exchange capacity	0.000	0.000	0.100	0.150	0.000	0.000	0.000	0.000	0.000	0.000

Lower Bound	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Upper Bound	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500	0.500

MULTIMIN REPORT for well GLENAIRE-1_ST-1 interval PRETTY HILL FORMATION (3508.04 - 3705.00 metres) Project beach

SECONDARY MODEL GLENAIRE_SHALE:
Cementation factor m = 2.000 Saturation exponent n = 2.000 Linear dual-water w = 2.00
Expansion of clay bound water is enabled.

Component	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
Error of prediction	0.9198	0.9217	0.0979	0.3695	0.1600	0.1728	0.0344	0.0481	0.0067	0.0612	0.0801

EQUATION RESPONSES:

Log	Method	Uncertainty	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
Formation density [G/C3]		0.0264	2.650	2.710	2.570	2.780	2.620	3.420	1.130	1.130	4.084	0.000	0.000
RHOZ	Linear												
Neutron [V/V]		0.0140	-0.050	0.000	-0.006	0.247	0.451	0.500	0.829	0.829	-0.002	0.000	0.000
HTNP	Linear												
Sonic transit time [US/F]		1.9507	50.5	47.8	53.5	85.3	85.3	85.3	189.0	189.0	189.0	0.0	0.0
DT	Linear												
Photoelectric absorption [B/C3]		0.3200	5.04	14.13	8.71	11.12	5.38	27.17	1.63	1.63	1065.00	0.00	0.00
U	Linear												
Total gamma [GAPI]		6.0000	25.0	11.0	280.0	160.0	110.0	70.0	0.0	38.4	0.0	0.0	0.0
ECGR_COR	Linear												
Unflushed conductivity [MH/M]		0.0879I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.57	8.59
CT	Dual-water nonlinear												
Flushed conductivity [MH/M]		0.2829I	0.00	0.00	0.00	0.00	0.00	0.00	41.57	88.92	0.00	0.00	0.00
CXO	Dual-water nonlinear												

CONSTRAINTS:

	Value	Type	Uncertainty	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
<PROG UNITY>	1.000	Tool	0.0100	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000	1.000	1.000
<PROG POROSITY>	0.000	Tool	0.0100	0.000	0.000	0.000	0.000	0.000	0.000	1.000	1.000	1.000	-1.000	-1.000
<PROG X BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.000	0.184	0.069	0.136	-1.000	0.000	0.000	0.000	0.000
<PROG U BNDWAT>	0.000	Tool	0.0100	0.000	0.000	0.000	0.708	0.267	0.522	0.000	0.000	0.000	-1.000	0.000

PROPERTIES AND BOUNDS:

	QUARTZ	CALCITE	ORTHOCL	ILLITE	KAOLIN	CHLOR	XBNDWAT	XFREWAT	XSPCFLU	UBNDWAT	UFREWAT
Mineral grain density	2.650	2.710	2.570	2.780	2.620	3.420	0.000	0.000	0.000	0.000	0.000
Mineral cation exchange capacity	0.000	0.000	0.000	0.250	0.100	0.150	0.000	0.000	0.000	0.000	0.000

Lower Bound	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Upper Bound	1.000	1.000	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500

ENCLOSURE 1: FORMATION EVALUATION PLOT 1:500 (GLENAIRE-1_ST-1): ANALYSIS 1 (0.38 ΩM @ 25°C - SAWPIT SANDSTONE)

ENCLOSURE 2: FORMATION EVALUATION PLOT 1:500 (GLENAIRE-1_ST-1): ANALYSIS 2 (0.26 ΩM @ 25°C – PRETTY HILL SANDSTONE)

Santos
ACN 007 550 923

BRIEF PALYNOLOGICAL REPORT

STUDY: **Glenaire No.1**

REPORT NO:

DATE: 28/10/2006

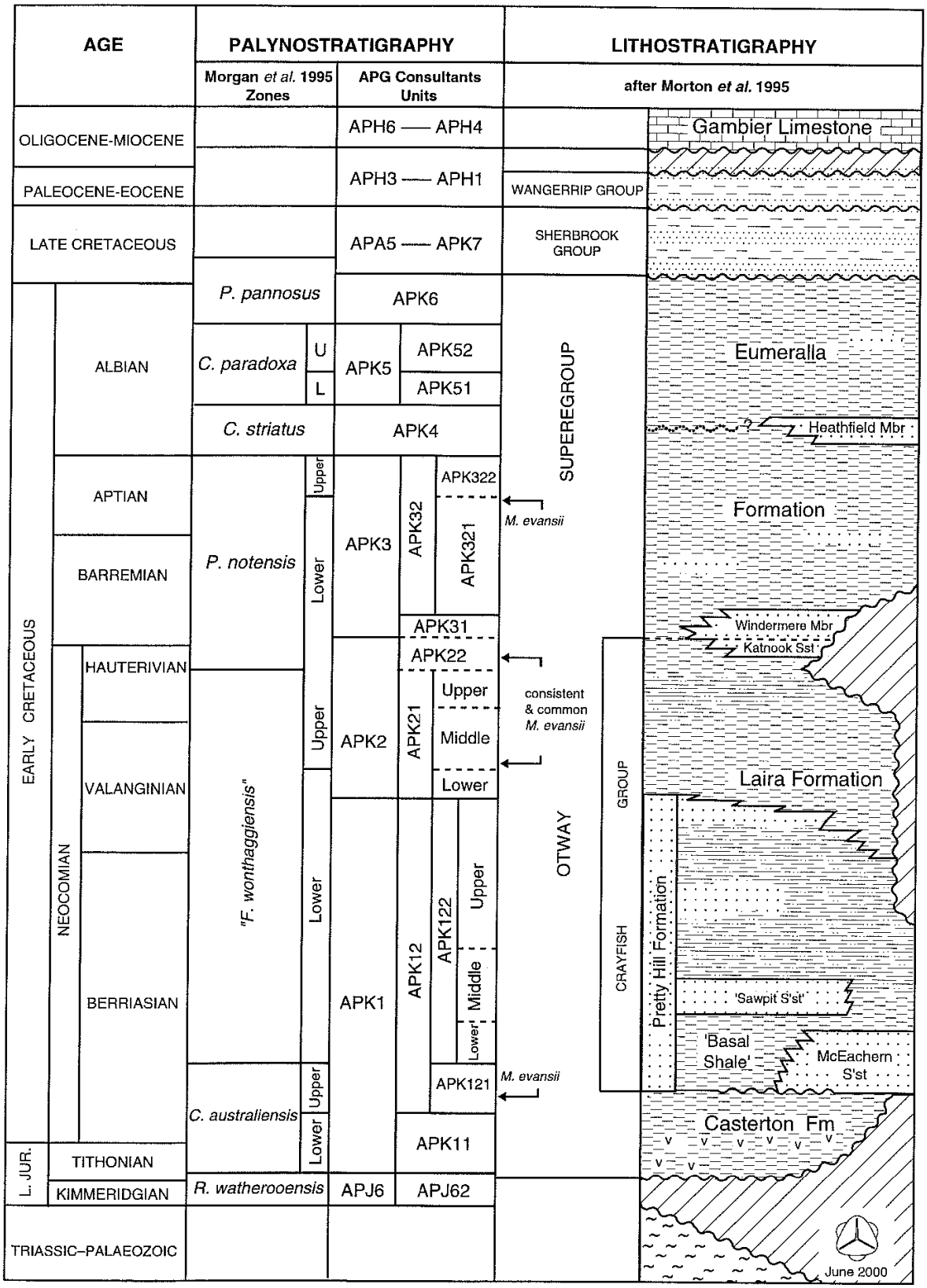
Two cuttings samples from Glenaire No.1 were submitted for urgent palynological analysis. Only limited yields of organic matter ,predominantly black woody fragments, were extracted during palynological processing and very sparse to extremely sparse spore pollen assemblages recovered. Only the upper sample can be classed as having yielded possibly representative palynofloras – the lower sample containing only an extremely low yield of much lighter coloured presumably caved spores.

The sample from 3654m contains sufficient forms to allow assignment to the Early Cretaceous zone PK1.2. This zone has been divided into four subzones by Price (2000) (PK121, lower, middle, upper PK122)in his review of the Penola Trough palynostratigraphy. There is insufficient diversity of spores and pollen recovered from this cuttings sample to allow any attempt to subdivide past the PK1.2 assignment.

			STRATIGRAPHY		
SAMPLE	DEPTH (metres)	AGE	BIOSTRATIGRAPHICAL UNIT	INFERRED STRATIGRAPHIC LIMIT	REMARKS
Cuttings	3654	Early Cretaceous	PK1.2	Uppermost Casterton Formation to Pretty Hills Formation.	Very sparse assemblage dominated by black wood fragments. *Cyathidites spp* prominent, *Foraminisporis dailyi, Dictyotosporites speciosus* and *Dictyotosporites "parvus"* present.
Cuttings	3696	Indeterminate	-	-	Extremely sparse assemblage almost completely dominated by black wood fragments. Few spore pollen noted including *Dictyotosporites speciosus* and *Pilosisporites notensis* (PK2.2 index) but these are all relatively lighter in colour than in the overlying assemblage and are considered to have been derived from down hole cavings.

G.R. Wood
28/10/2006

OTWAY STRATIGRAPHIC NOMENCLATURE



Appendix 1, Figure 1

From: Price, P.L. (2000): Review of the Penola Trough Palynostratigraphy. APG Consultants Report No. 651/01