

Culverin-1

Date:	6-01-2006	Last Casing:	340 mm (13 3/8") @ 1511.14 mMDRT
Report Number:	18	Leak Off Test:	1.89 sg EMW @ 1528.0 mMDRT
Report Period:	24hrs to 24:00	Current hole size:	311 mm (12 1/4")
Depth @ 2400 Hrs:	3758.0 mMDRT	Mud Weight:	1.21 sg
Last Depth:	3697.0 mMDRT	ECD:	1.22 sg
Progress:	61 m	Mud Type:	KCl-NaCl-Polymer
TD Lithology:	Siltstone and minor Sandstone.	Mud Chlorides:	79, 000 ppm
Water Depth:	585.0 m	Mud Fluid Loss:	3.6 cc
RT Elevation:	21.5 m	Bit Type:	Smith Rock-bit

OPERATIONS SUMMARY

24 HOUR SUMMARY	Drilled ahead from 3697.0 mMDRT to a midnight well TD of 3758.0 mMDRT.
00:00 - 24:00:	
06:00 Update	Recording LWD Wipe from 3575.0 – 3630.0 mMDRT.
NEXT 24 HOURS:	Circulated bottoms up from TD at 3758m. Carried out LWD Recorded Wipe from 3575.0 – 3630.0 mMDRT. POOH and down load LWD. Rig up to run Wireline logs. Run (1) PEX-HALS-DSI-GR Run (2) VSI-4.

GEOLOGICAL SUMMARY

LITHOLOGIC DESCRIPTION:

Interval mMDRT	Description
3697 - 3725 ROP 1.6 – 34 m/hr Ave 4.1 m/hr	<p>Interbedded Sandstone, Siltstone, Coal and minor Dolomite</p> <p>SANDSTONE (5-70%): white to light brownish grey in fragments, occasionally speckled black and white (due to abundant carbonaceous specks), translucent to white as loose grains, dominantly very fine to fine, very occasionally medium to coarse grained, sub-angular to angular, moderately well-sorted, common white argillaceous matrix in part, trace pyrite, trace calcareous cement in part, trace to common carbonaceous specks, poor inferred visual porosity, trace dull yellow-orange calcite mineral fluorescence, trace mineral(?) fluorescence giving only dull yellow crush-cut residue ring under UV light, grading into coarse brown carbonaceous siltstone.</p> <p>(Very Poor Show in sample at 3725m - Trace dull yellow, pinpoint, no direct cut, trace crush cut, trace light green / cream broken residue ring.)</p> <p>SILTSTONE (30-95%): light to dark brownish-grey, soft to firm, amorphous to fissile in parts, very argillaceous, common carbonaceous grains and laminations, very fine sand grains in part, trace pyrite, grading to fine sandstone.</p> <p>COAL (Trace-5%): dull black, sub-vitreous, firm, brittle in part, hackly fracture, silty.</p>

	DOLOMITE (Trace-5%): dark yellowish brown, hard, blocky, sub-conchoidal fracture in part, cryptocrystalline, trace pyrite, trace dull yellow mineral fluorescence.
3725 – 3758 ROP 1.0 – 14 m/hr Ave 2.3 m/hr	<p>Dominantly Siltstone interbedded with Sandstone and Coal</p> <p>SILTSTONE (60-80%): light to dark brownish-grey, soft to firm, amorphous to rarely sub blocky, very argillaceous, common carbonaceous grains and laminations, trace very fine sand grains in part, trace pyrite, grading to very fine silty sandstone.</p> <p>SANDSTONE (10-40%): white to light grey, occasionally speckled white / black when carbonaceous, soft to very soft aggregates, very fine to fine, rarely medium, sub-angular to rounded, high sphericity, common carbonaceous grains in part, 5 – 80% white argillaceous (weathered feldspar?) matrix, poor porosity, trace dull yellow mineral fluorescence.</p> <p>COAL (tr-5%): dull black, sub vitreous, firm, brittle in part, hackly fracture, silty.</p>

▪ **HYDROCARBON FLUORESCENCE:**

INTERVAL (mMDRT)	FLUORESCENCE
3720 - 3725	Trace dull yellow, pinpoint, no direct cut, trace crush cut, trace light green / cream broken residue ring. (Very Poor Show)
3725 - 3730	Trace dull yellow mineral fluorescence.
3740 - 3745	Trace mineral(?) fluorescence giving only dull yellow crush-cut residue ring under UV light.
3745 - 3758	Yellow-white and dull orange-yellow direct UV mineral fluorescence only.

▪ **GAS SUMMARY:**

INTERVAL (mMDKB)	Total GAS (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	IC4 (ppm)	NC4 (ppm)	C5 (ppm)
3697 - 3725	0.35	1882	246	181	55	77	79
3725 - 3758	0.39	2302	249	192	53	80	69
3705 (PEAK) Coal	0.63	3506	383	234	70	99	88
3740 (PEAK) Coal	0.87	6001	523	314	80	103	83
3751.5 (PEAK) Coal	2.558	19427	1068	380	89	110	37

▪ **SURVEYS**

MD	ANGLE	Azi		MD	ANGLE	Azi		
2743.83	3.80	42.10		3375.03	3.69	54.03		
2772.65	3.83	43.73		3404.40	3.54	54.90		
2801.66	3.84	42.76		3432.80	3.59	51.96		
2830.44	3.89	43.81		3461.32	3.48	51.53		
2859.14	3.95	44.31		3490.24	3.38	50.31		
2887.70	3.86	45.65		3519.26	3.32	50.11		

2916.43	3.87	45.26		3547.59	3.32	49.95		
2944.96	3.83	45.79		3555.34	3.36	53.74		
2973.53	3.73	46.71		3583.83	3.00	50.85		
3002.19	3.72	46.75		3641.38	2.98	50.16		
3059.49	3.72	46.57		3758	2.98	50.16	Projected	
3088.21	3.81	46.46						
3116.08	3.75	45.37						
3145.07	3.74	48.33						
3173.79	3.67	49.59						
3202.65	3.71	48.97						
3231.77	3.53	48.2						
3260.37	3.66	49.86						
3346.36	3.65	50.41						
3375.03	3.69	54.03						

▪ **WELLSITE GEOLOGISTS:**

Mike Woodmansee

Rob Blackmore

▪ **FORMATION TOPS**

WD = 585.0 m RTE = 21.5 m								
FORMATION	PROGNOSSED DEPTHS (m)			ACTUAL DEPTHS (m)				
	MDKB	TVDSS	THICK	MDKB	TVDSS	HI/LO	THICK	DIFF
Sea Floor/ Gippsland Limestone	607.0	585.0	1975.0	606.5	585.0	0.0	1899.9	0.0
Lakes Entrance	2582.0	2560.0	325.0	2508.0	2484.9	75.1 H	315.1	-10.0
Latrobe	2907.0	2885.0	30.0	2824.0	2800.0	85.0 H	11.0	-19.0
Base TF Channel	2937.0	2915.0	10.0	2835.0	2811.0	104.0 H	1.0	-8.0
Top 67.5 Ma Sand	2947.0	2925.0	310.0	2836.0	2812.0	113.0 H	266.5	-43.5
Near 68.5 Ma Sand	3257.0	3235.0	226.0	3103.0	3078.5	156.5 H	374.3	-148.3
Near 70.3 Ma Sand	3482.5	3461.0		3478.0	3452.8	8.2 H		
Near 74 Ma Sand	Not prog	-	-	-	-	-	-	-
TD	3612.0	3590.0						

▪ **COMMENTS:**

Sperry-Sun LWD sensor to bit distances: (note new sensor offsets with new tools)

Gamma Ray: 16.17m

Resistivity: 18.53m

Density: 26.13m

Porosity: 31.43m

Directional : 13.55m

Caliper : 30.39m

LWD failed at 3700.00 mMDRT. Drilled ahead to TD without Realtime LWD data.