

Culverin-1

Date:	4-01-2006	Last Casing:	340 mm (13 3/8") @ 1511.14 mMDRT
Report Number:	16	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:	3619.0 mMDRT	Mud Weight:	1.21 sg
Last Depth:	3571.0 mMDRT	ECD:	1.22 sg
Progress:	48 m	Mud Type:	KCl-NaCl-Polymer
TD Lithology:	Sandstone, Siltstone, Coal	Mud Chlorides:	78, 000 ppm
Water Depth:	585.0 m	Mud Fluid Loss:	3.8 cc
RT Elevation:	21.5 m	Bit Type:	Smith Rock-bit

OPERATIONS SUMMARY

24 HOUR SUMMARY	RIH to bottom and began drilling ahead 311 mm (12 1/4") hole from 3571.0 mMDRT. Drilling ahead at 3619.0 mMDRT at midnight.
00:00 - 24:00:	
06:00 Update	Drilling ahead 311 mm (12 1/4") hole at 3643.0 mMDRT.
NEXT 24 HOURS:	Drill ahead 311 mm (12 1/4") hole.

GEOLOGICAL SUMMARY

LITHOLOGIC DESCRIPTION:

Interval mMDRT	Description
3565 - 3590 ROP 1.1 – 20.0 m/hr Ave 5.6 m/hr	<p>Interbedded Siltstone and Claystone with minor Argillaceous Sandstone and thin Coals</p> <p>ARGILLACEOUS SANDSTONE (5-20%): white to very light grey with carbonaceous laminations, firm to friable, very fine to fine, occasional medium grains, moderately well-sorted, sub-angular to rounded, white argillaceous matrix to 60% (weathered feldspars?), moderate inferred visual porosity, trace pyrite, abundant carbonaceous specks and laminae, glowing white residual crush cut fluorescence inferred to be from carbonaceous material, no hydrocarbon fluorescence noted from clean sand fragments.</p> <p>SILTSTONE (50-80%): light brownish grey to brownish grey, occasionally white, very soft to firm, amorphous to laminated, argillaceous, common carbonaceous specks and carbonaceous laminae, occasionally pyritic, trace very hard black & white finely banded siliceous fragments, grading occasionally into brown claystone.</p> <p>CLAYSTONE (0-40%): very light greenish-grey, firm to moderately hard, sub-blocky to fissile, occasionally splintery shaped fragments, trace glauconite?, trace silty quartz grains, calcareous in nature.</p> <p>COAL (Trace-5%): black, dull black, sub vitreous, firm, blocky, silty in part.</p>
3590 - 3620	Interbedded Sandstone and Siltstone with thin Coals

ROP 1.2 – 19 m/hr Ave 3.7 m/hr	<p>SANDSTONE (30-40%): white to very light grey in aggregate form, very firm to firm, occasionally very well cemented with quartz overgrowths, very fine to coarse white to yellowish grains when loose, occasional granular grains, mainly medium-grained, poorly-sorted, sub-angular to angular, abundant white argillaceous and calcareous matrix (weathered feldspars? and calcite cement), silica cemented with quartz overgrowths in part, poor inferred visual porosity, trace pyrite, trace fractured grains, common black and dark brown carbonaceous/woody specks, pale yellow mineral fluorescence from various cements, no hydrocarbon fluorescence.</p> <p>SILTSTONE (60-70%): light brownish grey to brownish grey, occasionally dark brown, soft to firm, amorphous to laminated, argillaceous, common black and dark brown carbonaceous/woody specks and carbonaceous laminae, occasionally pyritic.</p> <p>COAL (Trace): black to very dark brown, hard to very hard, sub-blocky to splintery, dull to bright with vitreous lustre and conchoidal fracture, commonly pyritised.</p>

▪ **HYDROCARBON FLUORESCENCE:**

INTERVAL (mMDRT)	FLUORESCENCE
3575 - 3580	Moderately bright, very slow, diffuse, white, crush cut fluorescence (inferred to be from carbonaceous material associated with thin fine sand stringers), thin white residual ring. No direct UV or crush-cut UV hydrocarbon fluorescence noted from clean sand fragments.
3585 - 3590	Trace weak pale yellowish direct UV fluorescence from carbonaceous laminations.
3590 - 3595	Pale yellow direct UV fluorescence from calcite-cemented sandstone fragments, no hydrocarbon fluorescence.
3605 - 3620	Pale yellow direct UV fluorescence from silica and calcareous cemented sandstone fragments, no hydrocarbon fluorescence.

▪ **GAS SUMMARY:**

INTERVAL (mMDKB)	Total GAS (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	IC4 (ppm)	NC4 (ppm)	C5 (ppm)
3565-3590	1.0	8183	595	229	60	57	18
3590 - 3620	0.72	5086	455	202	53	60	52
3582.0 (Peak)	3.06	24035	1391	371	109	80	15
3596.5 (Peak)	4.67	35647	2135	599	145	130	22
Coal							
3608.0 (Peak)	5.43	32568	3929	2084	344	503	124
Coal							

▪ **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						
3059.49	3.72	46.57						
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