

Culverin-1

Date:	31-12-2005	Last Casing:	340 mm (13 3/8") @ 1511.14 mMDRT
Report Number:	12	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:	3473.0 mMDRT	Mud Weight:	1.22 sg
Last Depth:	3402.0 mMDRT	ECD:	1.22 sg
Progress:	71 m	Mud Type:	KCl-NaCl-Polymer
TD Lithology:	Argillaceous Sandstone, Siltstone and Coal	Mud Chlorides:	82, 000 ppm
Water Depth:	585.0 m	Mud Fluid Loss:	3.6 cc
RT Elevation:	21.5 m	Bit Type:	PDC (Reed-Hycalog)

OPERATIONS SUMMARY

24 HOUR SUMMARY**00:00 - 24:00:**

RIH to 3330.0 mMDRT. Logged down over sandstone at 3340.0 mMDRT. Reamed down to bottom. Commenced drilling ahead from 3402.0 mMDRT. Drilling ahead at 3473.0 mMDRT at midnight.

06:00 Update

Drilling ahead at 3524.0 mMDRT.

NEXT 24 HOURS:

Drill ahead 311 mm (12 1/4") hole.

GEOLOGICAL SUMMARY

- LITHOLOGIC DESCRIPTION:**

Interval mMDRT	Description
3400 - 3410 ROP 1.56 – 44.3 m/hr Ave 19.9 m/hr	<p>Siltstone with interbedded Sandy Claystone and minor Coal</p> <p>SILTSTONE (70-90%): light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.</p> <p>SANDY CLAYSTONE (10-30%): very light grey to white, occasionally greenish-white, soft to firm, amorphous to sub-blocky, trace lithics, 5-20% fine, well rounded quartz sand, grading into Argillaceous Sandstone, quite calcareous in part, no fluorescence.</p> <p>COAL (Trace): black to dark brown, soft to firm, dull to bright, rare conchoidal fracture, commonly laminated, grading into carbonaceous siltstone, firmly pyrite cemented in part.</p>
3410-3430 ROP 1.1 – 65.9 m/hr Ave 22.6 m/hr	<p>Argillaceous Sandstone with interbedded Siltstone</p> <p>ARGILLACEOUS SANDSTONE (40-70%): white to pale grey in aggregates, mainly loose, clear to translucent when loose, friable when in rare aggregates, fine to coarse grained, mainly medium grained, poorly sorted, sub-angular to angular, abundant white argillaceous clay matrix, generally non-calcareous matrix, poor inferred visual porosity, trace pyrite, trace carbonaceous fragments and laminations, trace firm calcite cement fragments, no fluorescence.</p>

	SILTSTONE (30-60%): light grey to light brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3430-3475 ROP 1 – 40 m/hr Ave 11 m/hr	<p>Siltstone with minor Argillaceous Sandstone and trace Coal</p> <p>ARGILLACEOUS SANDSTONE (10-30%): clear to translucent, loose, very fine to coarse grained, mainly fine grained, very poorly sorted, sub-angular to angular, abundant white argillaceous matrix, trace pyrite, trace carbonaceous specks, poor to moderate visual inferred porosity, no hydrocarbon fluorescence.</p> <p>SILTSTONE (70-90%): light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, grading into carbonaceous siltstone, very argillaceous, disseminated pyrite in part, no fluorescence.</p> <p>COAL (Trace): black to dark brown, soft to firm, dull to bright lustre, rare conchoidal fracture, commonly laminated, grading into carbonaceous siltstone.</p>

▪ **HYDROCARBON FLUORESCENCE:**

INTERVAL (mMDRT)	FLUORESCENCE
	Nil.

▪ **GAS SUMMARY:**

INTERVAL (mMDKB)	Total GAS (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	IC4 (ppm)	NC4 (ppm)	C5 (ppm)
3400-3410	0.15	2028	778	53	31	35	24
3410-3430	0.12	630	77	43	26	30	9
3430-3475	0.186	876	150	82	33	43	47
3436 PEAK	0.28	1715	207	108	32	43	44
3469 PEAK	0.308	1849	261	124	54	52	44
3473 PEAK	0.324	2435	255	90	31	38	37

▪ **SURVEYS**

MD	ANGLE	Azi		MD	ANGLE	Azi		
2285.35	4.14	37.21		2887.70	3.86	45.65		
2314.02	4.15	34.69		2916.43	3.87	45.26		
2342.60	4.24	35.48		2944.96	3.83	45.79		
2371.30	4.20	37.23		2973.53	3.73	46.71		
2399.91	4.28	37.06		3002.19	3.72	46.75		
2428.46	4.30	38.32		3059.49	3.72	46.57		
2457.14	4.30	37.54		3088.21	3.81	46.46		
2511.27	4.09	38.40		3116.08	3.75	45.37		
2543.24	4.05	40.48		3145.07	3.74	48.33		

2572.00	4.01	40.97		3173.79	3.67	49.59		
2600.65	3.91	40.54		3202.65	3.71	48.97		
2629.39	3.86	40.58		3231.77	3.53	48.2		
2658.02	3.89	41.3		3260.37	3.66	49.86		
2686.60	3.77	41.46		3346.36	3.65	50.41		
2715.15	3.77	40.42		3375.03	3.69	54.03		
2743.83	3.80	42.10		3404.40	3.54	54.90		
2772.65	3.83	43.73		3432.80	3.59	51.96		
2801.66	3.84	42.76		3461.32	3.48	51.53		
2830.44	3.89	43.81		3490.24	3.38	50.31		
2859.14	3.95	44.31						

▪ **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	585	1975	606.5	585.0	0.0	1899.9	0.0
Lakes Entrance	2582.0	2560.0	325	2508.0	2484.9	75.1 H	315.1	-10.0
Latrobe	2907.0	2885.0	30	2824.0	2800.0	85.0 H	11.0	-19.0
Base TF Channel	2937.0	2915.0	10	2835.0	2811.0	104.0 H	1.0	-8.0
Top 67.5 Ma Sand	2947.0	2925.0	310	2836.0	2812.0	113.0 H	266.5	-43.5
Near 68.5 Ma Sand	3257.0	3235.0	226	3103.0	3078.5	156.5 H	374.3	-148.3
Near 70.3 Ma Sand	3482.5	3461.0		3478	3452.8	8.2 H		
Near 74 Ma Sand	Not prog							
TD	3612.0	3590.0						

▪ **COMMENTS:**

Sperry-Sun LWD sensor to bit distances: (same LWD toolstring run following bit trip)

Directional = 13.13 m
Gamma-Ray = 15.73 m
Resistivity = 18.04 m
Density = 25.66 m
Porosity = 30.97 m
ACAL = 29.93 m

Trip Gas recorded following bit trip at 3402 mMDRT

21 Units TG over a background of 6 Units TG @ 3400.0 mMDRT.
C1 = 2772 ppm C2 = 379 ppm C3 = 76 ppm IC4 = 43 ppm
NC4 = 45 ppm C5 = 137 ppm