Culverin-1

Date:	5-01-2006	**Last Casing:**	340 mm (13 3/8") @ 1511.14 mMDRT
Report Number:	17	**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:	3697.0 mMDRT	**Mud Weight:**	1.21 sg
Last Depth:	3619.0 mMDRT	**ECD:**	1.22 sg
Progress:	78 m	**Mud Type:**	KCl-NaCl-Polymer
TD Lithology:	Sandstone, Siltstone, Coal	**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 00:00 - 24:00:	Drilled ahead from 3619.0 mMDRT to 3697.0 mMDRT at midnight.
06:00 Update	Drilling ahead 311 mm (12 ¼") hole at 3718.0 mMDRT. LWD has failed deepest GR recorded 3699m.
NEXT 24 HOURS:	Drill ahead 311 mm (12 ¼") hole.

GEOLOGICAL SUMMARY

- **LITHOLOGIC DESCRIPTION:**

Interval mMDRT	Description
3620 - 3650 ROP 1.2 – 16.8 m/hr Ave 2.5 m/hr	**Interbedded Sandstone, Siltstone and Coal** SANDSTONE (15-65%): white to very light grey in aggregate form, occasionally clear to white when in loose grains, firm to very well cemented in part, blocky to massive, very fine to medium grained, mainly fine-grained, moderately-sorted, sub-angular to angular, common white argillaceous matrix (weathered feldspars?), common quartz overgrowths cementing sandstone, common calcareous cement, poor inferred visual porosity, common pyrite both as cement and in nodular form, trace fractured grains, trace carbonaceous specks and laminations, common pale yellow-dull orange mineral fluorescence from calcite & silica(?) cement, no hydrocarbon fluorescence. SILTSTONE (30-80%): light brownish grey, very light brownish grey, soft to very firm, argillaceous, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, gradational to Carbonaceous Siltstone. COAL (Trace-5%): dull black, firm, brittle in part, sub vitreous to rarely vitreous in patches, occasionally pyritic.
3650 – 3667 ROP 1.5 – 9.6 m/hr Ave 4.1 m/hr	**Dominantly Siltstone with minor Sandstone and thin Coal** SANDSTONE (20-30%): white to very light grey in aggregate form, occasionally clear to white when in loose grains, firm to well-cemented in part, blocky to massive, very fine to medium grained, mainly fine-grained, poorly to moderately-sorted, sub-angular to angular, trace white argillaceous matrix

	(weathered feldspars?), trace quartz overgrowths, trace calcareous cement, poor inferred visual porosity, trace carbonaceous specks and laminations, trace pale yellow-dull orange mineral fluorescence from calcite(?) cemented fragments, no hydrocarbon fluorescence. SILTSTONE (70-80%): brownish grey to very light brownish grey, occasionally dark brown, soft to very firm, argillaceous, common fine quartz grains, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, grading into Carbonaceous Siltstone. COAL (Trace): dull black, firm, brittle in part, sub vitreous to rarely vitreous in patches, occasionally pyritic.
3667 – 3697 ROP 1.1 – 14.5 m/hr Ave 3.0 m/hr	**Interbedded Sandstone Siltstone and Coal** SANDSTONE: white to very light grey, dominantly soft to friable aggregates, also loose grains, very fine to fine, occasional medium grains, sub angular to well rounded, moderately will sorted, 5 – 80% white argillaceous matrix, occasional carbonaceous grains and siltstone lithics, poor to fair porosity, no fluorescence. SILTSTONE: light brownish grey, very soft to sub firm, amorphous to sub blocky, occasionally sub fissile when carbonaceous, commonly carbonaceous grains and laminae, very argillaceous, trace pyrite, intercalated with very fine sandstone. COAL: dull black, sub vitreous, firm, brittle in part, hackly fracture, silty.

- **HYDROCARBON FLUORESCENCE:**

INTERVAL (mMDRT)	FLUORESCENCE
3620 – 3625	Trace – 5% dull yellow mineral fluorescence from the calcareous cement.
3625 – 3630	Trace – 10% dull yellow mineral fluorescence from the calcareous cement.
3645 – 3650	Common (5%) pale yellow-dull orange mineral fluorescence from calcite/silica cement, no hydrocarbon fluorescence.
3670 – 3690	Trace pale yellow-dull orange calcite/silica? Mineral fluorescence.

- **GAS SUMMARY:**

INTERVAL (mMDKB)	Total GAS (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	IC4 (ppm)	NC4 (ppm)	C5 (ppm)
3620 -3650	0.96	6049	693	431	99	150	43
3650- 3667	0.82	6625	637	360	91	132	99
3667 - 3697	0.44	2345	276	197	66	86	80

- **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						
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	**PROGNOSED 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: (<u>note new sensor offsets with new tools</u>)
Gamma Ray: 16.17m
Resistivity: 18.53m
Density: 26.13m
Porosity: 31.43m
Directional : 13.55m
Caliper : 30.39m