



DAILY GEOLOGICAL REPORT

WELL: Shenandoah #1 **REPORT No.:** 16 **DAYS FROM SPUD:** 16 **DATE:** 16/08/07
PEL: EP 98 **00:00 DEPTH:** 243mKB **LAST 24hr DEPTH:** 217mKB **24 hr Progress:** 26m
LOCATION: Beetaloo Basin **RIG:** Century Rig 7 **KB:** (Final Survey) 232.55m **9 5/8" Csg:** - m
GEOLOGIST: J Hulse **GL:** (Final Survey) 226.75m **PTD:** 2,900m

NEARBY WELLS: Balmain #1 (Twin)

06:00 Depth/Operation: 244mKB / Drilling ahead 17 1/2" hole in Tindall Limestone.
Operations 00:00 to 06:00: RIH, drill ahead 17 1/2" hole at 05:30hrs.
Previous 24 Hours Operations: RIH, drill ahead 17 1/2" hole, total losses at 242.5mKB, POOH to shoe, build water volume, wait on water, second water bore online, RIH.

Formation Tops	Actual Depths (m)			Prognosed Depths (m)			Diff to Prog.	Diff to Balmain
	MDKB	TVD	TVDSS	MDKB	TVD	TVDSS	H/L	H/L
Undifferentiated Tertiary	5.8	5.8	+227	5.8	5.8	+227	-	-
Jinduckin Formation	51.5	51.5	+181.3	54.8	54.8	+178	+3.3	+3.3
Tindall Limestone	84.2	84.2	+148.6	83.8	83.8	+149	-0.4	-0.4
Antrim Volcanics				265.3	265.3	-32.5		
Bukalara Sandstone				348.3	348.3	-115.5		
Hayfield Mudstone				406.3	406.3	-173.5		
Hayfield Sand				782.2	782.2	-549.4		
Jamison Sandstone				856.3	856.3	-623.5		
Kyalla Formation				940.8	940.8	-708		
Moroak Sandstone				1551.8	1551.8	-1319		
Velkerri Formation				1641.8	1641.8	-1409		
Bessie Creek Sandstone				2481.8	2481.8	-2249		
Total Depth				2900.0	2900.0	-2667.2		

Remarks: The calcareous siltstone observed between 224 and 239mKB, based on cuttings and ROP, correlates to a similar section on logs in Balmain-1. The total losses at 242.5mKB coincided with the base of this silty section and a return to a moderately hard to hard micritic limestone and corresponding negative drill break (5 min/m → 10min/m). This suggests that the losses were due to fractures rather than a void at this level unless the mud was lost at a shallower depth.

Interval (m) ROP (min/m)	Lithology Description	Gas/Background Breakdown C1/C2/C3/C4/C5
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Formation: Tindall Limestone

216.5 – 224m 10min/m	Limestone (100%): White, buff, yellow, grey, soft – moderately hard, blocky, micritic. Very poor sample, almost 100% LCM.	Nil
224 – 239m 7min/m	Limestone (10 – 20%): As above Calcareous Siltstone (80-90%): Predominantly light grey, soft – firm, minor - common carbonaceous fragments, trace fossil fragments, massive – weakly laminar, calcareous cemented, sub blocky, trace calcite grains. Correlates with approximately 230mKB on Balmain-1 logs. Very high LCM content in sample. Minor Tertiary quartz.	
239 – 242.5m 20+min/m	Limestone (45%): White, minor cream – buff, moderately hard - hard, sub angular, micritic, trace calcite. Calcareous Siltstone (55%): As above.	
Fluorescence	Nil	
Gas Flaring	Nil	



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06:00 SUMMARY

Formation: Tindall Limestone

242.5–244mKB 14min/m	Limestone (55%): As above, common orange yellow weathered fragments Calcareous Siltstone (45%): As above Note average chip size of the limestone is about ¼ the size of the siltstone as a result of being harder lithology.	Nil
Fluorescence	Nil	
Gas Flaring	Nil	