



## DAILY GEOLOGICAL REPORT

**WELL:** Shenandoah #1 **REPORT No.:** 17 **DAYS FROM SPUD:** 17 **DATE:** 17/08/07  
**PEL:** EP 98 **00:00 DEPTH:** 307mKB **LAST 24hr DEPTH:** 243mKB **24 hr Progress:** 64m  
**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:** 321mKB / TD 17 1/2" hole at 326mKB at 08:30 hours, prepare to run casing.

**Operations 00:00 to 06:00:** Drill ahead 17 1/2" hole 307 – 321mRT

**Previous 24 Hours Operations:** Drill ahead 17 1/2" hole 243 – 307mRT

Formation Tops	Actual Depths (m)			Prognosed Depths (m)			Diff to Prog. H/L	Diff to Balmain H/L
	MDKB	TVD	TVDSS	MDKB	TVD	TVDSS		
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	263.0	263.0	-30.5	265.3	265.3	-32.5	-1.3	-1.3
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 interval contained abundant cavings from shallower depths. Cuttings returns were low considering the ROP and Hole size. A 30bbl Hi-Vis Sweep was pumped but only a small amount was seen over the shakers approximately 10 minutes after calculated lag time.

It is suspected that there are multiple circulation systems within the voids and washouts causing recycling of cuttings before reaching the shakers.

TD was called on basis of ROP correlation with Balmain-1 (attached), the depth required for positioning of casing, BOP and new formation rathole for LOT.

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

242.5–263mKB 6m/hr	Calcareous Siltstone (15-45%): Predominantly light grey, soft – firm, minor - common carbonaceous fragments, trace fossil fragments, massive – weakly laminar, calcareous cemented, sub blocky, trace calcite grains. Limestone (55-85%): White, minor cream – buff, moderately hard - hard, sub angular, micritic, trace calcite.	Nil
<b>Fluorescence</b>	Nil	
<b>Gas Flaring</b>	Nil	



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### Formation: Antrim Volcanics

263–307mKB 4m/hr	Volcanics (100%): Light grey – medium grey, very fine –fine, soft – hard, sub blocky – sub platy, minor sub conchoidal fracture, variably calcareous, trace – minor black phenocrysts, common – abundant calcareous – siliceous white / yellow / red weathering / alteration clays, massive – weakly flow banded, trace - common micro crystalline calcite, minor ?plagioclase phenocrysts, common yellow –brown calcareous coating on grains.	Nil
<b>Fluorescence</b>	Nil	
<b>Gas Flaring</b>	Nil	

### 06:00 SUMMARY

### Formation: Antrim Volcanics

Formation: Andam Volcanics		
307 - 315mKB 3m/hr	Volcanics (100%): Minor light – medium grey moderately hard moderately fresh. 50% calcareous – non calcareous multicoloured weathering / alteration clays, 50% dark brown – red brown semi translucent grains, vug / fracture secondary mineralisation?	Nil
315 – 326mKB	Volcanics (100%): Predominantly medium grey, minor dark grey, hard, sub platy, common sub conchoidal fracture, common disseminated black phenocrysts.	
Fluorescence	Nil	
Gas Flaring	Nil	