



## DAILY GEOLOGICAL REPORT

**WELL:** Shenandoah #1    **REPORT No.:** 4    **DAYS FROM SPUD:** 4    **DATE:** 04/08/07  
**PEL:** EP 98    **00:00 DEPTH:** 78mKB    **LAST 24hr DEPTH:** 30mKB    **PROGRESS:** 48m  
**LOCATION:** Beetaloo Basin    **RIG:** Century Rig 7    **KB:** (Provisional) 232.8m    **9 5/8" Csg:** m  
**GEOLOGIST:** M. D. Berry    **GL:** (Provisional) 227.0m    **PTD:** 2,900m

**NEARBY WELLS:** Balmain #1

**06:00 Depth/Operation:** 78mKB / Wait on cement before drilling out in 17 1/2" hole.  
**Operations 00:00 to 06:00:** Pump cement job around casing and wait on cement.  
**Previous 24 Hours Operations:** Clean bit, install a rotating head and rubber and RIH. Blow hole clean and rotary air drill to 57.10m. POOH and make up air hammer BHA and RIH. Air hammer drill 17 1/2" hole to 78.28m. POOH due to washout around 20" casing as a result of failed conductor cement job. Lay out bit and bit sub and RIH with open ended drill pipe.

Formation Tops	Actual Depths (m)			Prognosed Depths (m)			Diff 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				83.8	83.8	+149		
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		

Interval (m) ROP (min/m) Average ROP	Lithology Description	Gas/Background Breakdown C1/C2/C3/C4/C5
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### Formation: Undifferentiated Tertiary and Cretaceous

30 - 51.5m ROP: 2.8 – 40.9 min/m Ave = 12 min/m	<p>Mudstone; 90%; Pink to light reddish brown, dark brown, orange, yellow, creamy white, locally variegated, generally firm, becoming firm to hard, sub-blocky, non-calcareous, locally with very fine to medium sub-rounded quartz grains scattered throughout, very slight trace of mica. Grades to silty mudstone. Also contains small ironstone nodules (coarse grain size), very well rounded, displaying outer limonitic "skin" and haematitic and iridescent "peacock" colouration on angular broken faces.</p> <p>Sandstone; 10%; Predominantly clear, also pale yellow and milky white, unconsolidated, no evidence of cement, very fine to very coarse grained, predominantly fine to medium becoming very fine to fine grained, poorly sorted, sub-rounded to rounded, good inferred porosity, no show.</p>	BG = Nil
<b>Fluorescence</b>	No Fluorescence	
<b>Gas Flaring</b>	No Flare	



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### Formation: Jinduckin Formation

51.5 – 78.3m ROP: 0.6 – 4.6 min/m Ave = 2.0 min/m	<p>Siltstone: 40 – 30%: Yellow, creamy white, pink to reddish brown, and trace dark red brown, argillaceous, firm to hard, generally firm, generally blocky, slight trace dolomitic (red brown only), scattered sub-rounded quartz grains throughout, trace ironstone nodules (coarse grain size), grading to reddish brown mudstone.</p> <p>Sandstone; 60 – 70%; Both Unconsolidated (60%) and cemented aggregates (40%). Unconsolidated sandstone; loose grains, predominantly clear, very fine to medium, occasionally coarse grains, moderately to poorly sorted, sub-rounded to rounded, no apparent cement, good inferred porosity, no show. Cemented sandstone; clear and milky, extremely fine to fine grained, moderately well sorted, non calcareous or dolomitic, siliceous cement, generally hard, grading to creamy white and pink arenaceous siltstone, no visible porosity, no show.</p> <p>Chert; Trace; White, angular fragments, extremely hard, siliceous, cryptocrystalline.</p>	BG = Nil
<b>Fluorescence</b>	No Fluorescence	
<b>Gas Flaring</b>	No Flare	

### Formation:

<b>Fluorescence</b>		
<b>Gas Flaring</b>		