



## DAILY GEOLOGICAL REPORT

**WELL:** Shenandoah #1    **REPORT No.:** 33    **DAYS FROM SPUD:** 33    **DATE:** 02/09/07  
**PEL:** EP 98    **00:00 DEPTH:** 905mKB    **LAST 24hr DEPTH:** 771mKB    **24 hr Progress:** 134m  
**LOCATION:** Beetaloo Basin    **RIG:** Century Rig 7    **KB:** (Final Survey) 232.55m    **13 3/8" Csg:** 312m  
**GEOLOGIST:** J Hulse    **GL:** (Final Survey) 226.75m    **PTD:** 2,900m

**NEARBY WELLS:** Balmain #1 (Twin)

**06:00 Depth/Operation:** 938mKB / Drill ahead in Kyalla Shale.

**Operations 00:00 to 06:00:** Drill ahead Jamison Sandstone to Kyalla Shale.

**Previous 24 Hours Operations:** RIH to 771mKB, drill ahead to 905mKB with surveys and stoppages due to rig repair. Circulated hole immediately beneath Hayfield Sandstone to check for oil indications at surface – nil.

Formation Tops	Actual Depths (m)			Prognosed Depths (m)			Diff to Prog. H/L	Thickness (m)
	MDKB	TVD	TVDSS	MDKB	TVD	TVDSS		
Undifferentiated Tertiary	5.8	5.8	+227	5.8	5.8	+227	-	45.7
Jinduckin Formation	51.5	51.5	+181.3	54.8	54.8	+178	3.3H	32.7
Tindall Limestone	84.2	84.2	+148.6	83.8	83.8	+149	0.4L	178.8
Antrim Volcanics	263.0	263.0	-30.5	265.3	265.3	-32.5	2.0H	85.0
Bukalara Sandstone	348.0	348.0	-115.5	348.3	348.3	-115.5	0.0	58.0
Hayfield Mudstone	406.0	406.0	-173.5	406.3	406.3	-173.5	0.0	375.9
Hayfield Sand	782.5	782.3	-549.7	782.2	782.2	-549.4	0.3L	(10.5)
Jamison Sandstone	849.0	848.8	-616.2	856.3	856.3	-623.5	7.3H	84.0
Kyalla Formation	933.0	932.8	-700.2	940.8	940.8	-708.0	7.8H	
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:** No indications that Jamison Sandstone contains live oil, water samples have been taken at intervals and will be tested for chloride content once testing equipment arrives (today).

Interval (m) ROP (min/m)	Lithology Description	Gas/B'ground Breakdown C1/C2/C3/C4/C5
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**Formation: HAYFIELD SANDSTONE, HAYFIELD MUDSTONE**

771-798mKB	<b>Hayfield Sandstone Section described in previous daily geological report</b>	
798-849mKB	<b>Mudstone (100%):</b> Predominantly medium – jade green, becoming olive green in lower section, minor levels with reddish brown and grey mudstone, grading to siltstone. The mudstone is moderately hard – hard, commonly micromicaceous sub blocky – sub platy, minor argillaceous / micaceous laminae, rare carbonaceous filaments and grades to siltstone in part. <b>Sandstone (Trace):</b> White, fine – predominantly very fine, abundant calcareous cement, quartzose, well consolidated, nil visible porosity, no shows.	Tg max 4 unit Bkg gas 1 unit 100% C1
<b>Fluorescence</b>	Nil	
<b>Gas Flaring</b>	Nil	



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### Formation: JAMISON SANDSTONE

849-860mKB	<p><b>Sandstone (2-5%):</b> Off white – light grey, fine – minor medium, well sorted, sub angular – sub round, quartzose, abundant white – clear siliceous cement, minor argillaceous matrix, trace – common patchy residual oil in matrix, nil – rare poor visible porosity.</p> <p><b>Mudstone (95-98%):</b> Pale – olive green, sub blocky – sub platy, minor sub fissile, firm – hard, minor sparsely micromicaceous, “waxy” texture, massive – weakly laminar, minor brown – light brown mudstone grading to siltstone.</p>	Tg max 7.5 unit Bkg gas 1 unit 100% C1
<b>Fluorescence</b>	Trace dull – minor moderately bright patchy yellowish white fluorescence, no cut.	
<b>Gas Flaring</b>	Nil	
860-905mKB	<p><b>Sandstone (15-65%):</b> White – light brown, fine – coarse, predominantly medium, moderately – well sorted, sub angular – sub round, trace coarse – very coarse loose sub round quartz grains, quartzose, common – abundant calcareous and siliceous cement, common overgrowths, minor pyrite matrix, minor secondary crystalline calcite, moderately well consolidated – loose, predominantly nil – poor visible porosity, minor fair visible porosity, minor fair inferred porosity, trace – minor patchy black – brown dead oil in matrix.</p> <p><b>Mudstone (40-85%):</b> Pale - jade– olive green, minor brown, sub blocky – sub platy, minor sub fissile, firm – hard, common micromicaceous, common “waxy” texture, massive – weakly laminar, minor argillaceous / micaceous laminae.</p> <p><b>Siltstone (Trace – 20%):</b> Medium grey – brown grey, hard, sub blocky, minor – common micaceous, massive – minor weakly laminar, trace carbonaceous fragments and laminae.</p>	Tg max 1.3 unit Bkg gas <1 unit 100% C1
<b>Fluorescence</b>	Trace – 2%, dull – moderately bright yellow, trace bright blue white fluorescence, nil to very weakly diffuse cut in yellow grains, very slow pale blooming to occasionally streaming milky cut in brighter grains. Grains with minor residual oil release a viscous dull milky film from the matrix when treated with HCl acid.	
<b>Gas Flaring</b>	Nil	

### 06:00 AM Summary

### Formation: JAMISON SANDSTONE/KYALLA SHALE

905-940mKB	<p><b>Sandstone (50-80%):</b> Off white, clear – translucent, very fine – coarse, predominantly medium, trace very coarse – granular loose sub round quartz grains at base, moderately sorted, sub angular – sub round, common – abundant siliceous cement, minor calcareous cement, minor argillaceous matrix, trace calcite, friable – moderately well consolidated, poor visible porosity, poor inferred porosity.</p> <p><b>Mudstone (20-50%):</b> Predominantly med green, minor red brown, trace grey, common micromicaceous, moderately hard – hard, sub blocky, minor sub fissile.</p>	Tg max 2.7 unit Bkg gas <1 unit 100% C1
<b>Fluorescence</b>	Nil	
<b>Gas Flaring</b>	Nil	