



## DAILY GEOLOGICAL REPORT

DGR 23

<b>Date:</b>	5 January 2009	<b>Licence / State:</b>	VIC/P46
<b>Report Period:</b>	06:00 – 06:00 hrs AEDT	<b>Rig:</b>	Seadrill: West Triton
<b>Days From Spud:</b>	22	<b>RT - SEAFLOOR:</b>	76.7m
<b>Current Hole Size:</b>	216mm (8.5")	<b>WATER DEPTH</b>	38.7 m MSL
		<b>RT:</b>	38.0 m MSL
<b>Depth @ 06:00 Hrs EST:</b>	3070m MDRT	<b>PTD:</b>	4000.0 m MDRT
	3067.1m TVDRT	<b>Spud Date:</b>	14 December 2008
	-3029.1m SS		
<b>24 Hr Progress:</b>	260m		
<b>06:00 – 06:00 EST</b>			
<b>Current Operation:</b>	<b>Drilling 216mm (8.5") hole</b>		
<b>AFE Cost (Drill)\$</b>	<b>(Coal&amp;S)\$</b>	<b>Cost To Date:</b>	
	<b>(P&amp;A)\$</b>		

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5")	999m	340mm(13.375")	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25")	2807	244mm(9.675")	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCI:	Cl -:	PV/YP:	Rmf
23:00	KCI Polymer	10.35	46	6.0	9.5	6.8%	43k	15/34	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5")	26	263	
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25")	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
83	MWD	2992.79	2.65	116.56	2989.98	66.43	215.67
84	MWD	3022.28	2.80	118.01	3019.43	66.24	214.47
85	MWD	3051.99	2.87	121.90	3049.11	66.14	213.20

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

## OPERATIONS SUMMARY

### Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled 216mm (8.5") hole 2810-3070m. Flowed checked at 3005m and 3019m. Raised MW from 10.3-10.5ppg from 3019m.

### Anticipated operations:

Drill ahead 216mm (8.5") hole.

### FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low		PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	76.7	-38.7	0m	10 High	76.7	-38.7
Nirranda Group	492	-454	49m Low	145 High	443.0	-405.0
Dilwyn Formation	576	-538	38m Low	152 High	538.0	-500.0
Pember Mudstone	963	-925	15m Low	255 High	948.0	-910.0
Pebble Point Formation	1075	-1037	47m Low	227 High	1028.0	-990.0
Timboon Sandstone	1092	-1054	44m Low	236 High	1048.0	-1010.0
Paarratte Formation	1245	-1207	22m Low	251 High	1223.0	-1185.0
Skull Creek Mudstone	1705	-1666	1m Low	258 High	1703.0	-1665.0
Nullawarre Greensand	1850	-1811	26m Low	232 High	1823.0	-1785.0
Belfast C & B Mudstone	1905	-1866	26m Low	232 High	1878.0	-1840.0
Belfast A Mudstone	2160	-2120	5m High	253 High	2163.0	-2125.0
Flaxman Formation	2873	-2832	68m High	363m Low	2938.0	-2900.0
Waarre Formation Unit C					3228.0	-3190.0
Waarre Formation Unit B					3533.0	-3495.0
Waarre Formation Unit A					3588.0	-3550.0
Eumeralla Formation					3988.0	-3950.0
Total Depth					4000.0	-3962.0

### HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2810-m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Drilled Gas	2874	105u	6u	94:3:2:1:Tr
Drilled Gas	3012	154u	8u	95:3:2:Tr
Drilled Gas	3062	117u	6u	94:3:2:1:Tr
Trip Gas				
Connection Gas				

### GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2810-2873  5-30m/hr 12m/hr avg	<p><b>Siltstone with interlaminated Sandstone and Limestone.</b></p> <p>SANDSTONE: (0-20%) Lithic Arenite, dark yellow brown to brown grey, very fine to fine, subangular to subrounded, well sorted, moderately strong calcareous cement, common argillaceous/silty matrix, trace carbonaceous material, rare fine nodular pyrite, friable to disaggregated, very poor to poor porosity, no fluorescence.</p> <p>LIMESTONE: (0-10%) Calcisiltite to Calcilitite, grey brown to dusky brown, micritic, slightly dolomitic, moderately to very argillaceous, trace fine calcareous sand, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence.</p> <p>SILTSTONE: (80-100%) Dark grey to olive black, slightly calcareous in part, locally v argillaceous grades to silty Claystone, trace lithic fragments, trace carbonaceous specks, occasionally fine grained arenaceous inclusions, moderately hard, blocky.</p>	6u BG 94:4:2:Tr

<p>2873-2898</p> <p>8-50m/hr 25m/hr avg</p>	<p><b>Flaxman Formation Massive Sandstone</b> SANDSTONE: (100%) Quartzose, clear to translucent, frosted, fine to predominantly medium, angular to subround, moderate sorting, moderately strong dolocalcareous cement at top becomes weak with depth, trace pyritic cement and nodules, predominantly clean, trace glauconite, common coarse to very coarse milky quartz float, occasionally Fe &amp; limonite stained quartz, occasionally moderately hard aggregates, predominantly disaggregated, good porosity, no fluorescence.</p>	<p>6u BG 94:4:2:1:Tr</p> <p>Peak @ 2874 105u 94:3:2:1:Tr</p>
<p>2898-2995</p> <p>12-31m/hr 20m/hr avg</p>	<p><b>Siltstone with interlaminated Sandstone and Limestone.</b> SANDSTONE: (0-50%) Quartzose, clear to translucent, frosted, very fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence. LIMESTONE: (0-25%) Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, moderately dolomitic, moderately argillaceous, trace carbonaceous stylolites, trace crystalline calcite, hard, brittle in part, blocky to platy, no porosity, no fluorescence. SILTSTONE: (45-100%) Dark grey to brown black, locally very argillaceous grades to silty claystone, trace lithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky to subfissile. CLAYSTONE: (0-20%) Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous.</p>	<p>6u BG 96:2:2:Tr</p> <p>Peak @ 2919 14u 91:4:3:1:0</p>
<p>2995-3029</p> <p>6-26m/hr 17m/hr avg</p>	<p><b>Massive Sandstone with minor interlaminated Siltstone and Limestone</b> SANDSTONE: (50-90%) Quartzose, clear to translucent to yellowish grey, frosted, very fine to coarse, predominantly fine, subangular to subround, moderate to well sorted, strong silica cement with weaker calcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace glauconite, predominantly disaggregated with common hard silica cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. LIMESTONE: (5-10%) Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, locally dolomitic, moderately argillaceous, trace carbonaceous stylolites, trace crystalline calcite, hard, brittle in part, blocky to platy, no porosity, no fluorescence. SILTSTONE: (5-60%) As above</p>	<p>8u BG 94:3:2:1:Tr</p> <p>Peak @ 3012 154u 95:3:2:0:0</p>
<p>3029-3060</p> <p>3-40m/hr 23m/hr avg</p>	<p><b>Interbedded Sandstone and Siltstone with Limestone laminae</b> SANDSTONE: (0-70%) Quartzose, medium grey to brown grey in part, clear to translucent, very fine to predominantly fine, subangular to subround, well sorted, moderately strong siliceous cement, locally dolocalcareous cement, slightly argillaceous/silty matrix in part, trace glauconite, trace kaolinitic inclusions, trace biotite, trace lithic fragments, moderately hard, friable to disaggregated in part, very poor to nil porosity, no fluorescence. SILTSTONE: (30-100%) Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, common light grey arenaceous inclusions, trace lithic fragments, trace carbonaceous material, moderately hard, blocky. LIMESTONE(0-5%) Calcilutite, pale yellow brown, micritic, trace very fine calcareous sand, chalky, brittle to moderately hard, blocky, no porosity, no fluorescence.</p>	<p>6u BG 95:3:2:Tr</p> <p>Peak @ 3062 117u 94:3:2:1:Tr</p>

**REMARKS:**

DGR 23 links to DDR 26.

Mud weight raised from 3019m due to ECD increase and presence of breakout cavings.

**LWD Offsets from Bit:****Run 4:**

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

**Geologists: Roman Leslie / Greg Clota**