

## Fermat-1

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### DAILY GEOLOGICAL REPORT

**DGR 10** 

VIC/P46

23 December 2008 Date:

**Report Period:** 06:00 - 06:00 hrs AEDT Seadrill: West Triton Rig:

Days From Spud:

RT - SEAFLOOR: 76.7m **Current Hole Size:** 311mm (12.25") WATER DEPTH 38.7 m MSL RT: 38.0 m MSL Depth @ 06:00 Hrs EST: 1869m MDRT PTD: 4000.0 m MDRT

Spud Date: 1867.75m TVDRT 14 December 2008

Licence / State:

-1829.75m SS

24 Hr Progress: 306m

06:00 - 06:00 EST

Drilling ahead 12 1/4" hole in the Nullawarre Greensand at 20m/hr. **Current Operation:** 

**AFE Cost** (Drill)\$ (C&S)\$ **Cost To Date:** 

(P&A)\$

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
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")		244mm(9.675")				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCI:	CI -:	PV/YP:	Rmf
22:45	KCI Polymer	9.65	76	4.4	9.0	7.5%	48k	21/34	-

Bit Data	No.	Make	Туре		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25")	41.2	842	
Last	3	Hughes	Rock	GT-1	311mm (12.25")	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
44	MWD	1554.71	3.12	227.55	1553.92	32.22	226.69
47	MWD	1643.45	3.22	227.15	1642.52	37.12	226.77
51	MWD	1820.98	3.35	229.19	1819.77	47.2	227.19

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	1563-1869	Nil	

### **OPERATIONS SUMMARY**

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

Drilled ahead 311mm (12.25") hole 1563-1679m. Power failed to driller's consol - Draw works, Top Drive System and Mud Pumps stopped - trouble shoot problem. Drilled ahead 311mm (12.25") hole 1679-1869m.

#### Anticipated operations:

Drill ahead 311mm (12.25") hole.



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**DGR 10** 

FORMATION TOPS								
FORMATION	ACTUAL TOP		High / Low	High / Low	PROGN	OSED 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					1878.0	-1840.0		
Belfast A Mudstone					2163.0	-2125.0		
Flaxman Formation					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
1530-1860m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

# **GEOLOGICAL SUMMARY**

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
1530-1705m	Interbedded and interlaminated Sandstone, Claystone and minor	0.07u BG
7-52m/hr 25m/hr avg	Siltstone SANDSTONE: (20-90%) Quartzose, clear to translucent, light grey, fine to medium, subangular to subround, well sorted, locally moderately strong dolocalcareous/siliceous cement, occasionally pyritic cement, predominantly clean (argillaceous matrix dispersing in mud), trace medium to coarse milky quartz float, trace medium nodular pyrite, locally carbonaceous/coaly fragments, trace muscovite in part, disaggregated, occasionally hard aggregates, poor to fair porosity, no fluorescence.  SILTSTONE: (0-20%) Dark grey to olive grey to pale yellow brown, moderately siliceous, moderately argillaceous, trace carbonaceous fragments, trace lithic fragments, trace muscovite, slightly chloritic, hard, blocky to subfissile.  CLAYSTONE: (10-80%) Dark grey to olive black, silty, occasionally slightly arenaceous, trace carbonaceous material, micromicaceous, trace lithic fragments, soft to plastic, massive to blocky.	100



1705-1850m	Skull Creek Mudstone	0.1 u BG
	Sandstone with interbedded, interlaminated Claystone and	100
9-37m/hr	Siltstone	
19m/hr avg	SANDSTONE: (10-90%) Quartzose, clear to translucent, light grey, fine	
	to coarse, subangular to subrounded, moderate to well sorted, locally	
	moderately strong dolocalcareous/siliceous cement, minor pyritic	
	cement, predominantly clean (argillaceous matrix dispersing in mud),	
	trace medium to coarse milky quartz float, trace medium nodular pyrite, locally carbonaceous/coaly fragments, disaggregated with minor hard to	
	very hard dolomite-cemented fine to medium sand aggregates, poor to	
	fair porosity, no fluorescence.	
	SILTSTONE: (5-10%) Dark grey to olive grey to pale yellow brown,	
	moderately siliceous, moderately argillaceous, trace carbonaceous	
	fragments, trace lithic fragments, trace muscovite, slightly chloritic, firm	
	to hard, blocky to subfissile.	
	CLAYSTONE: (10-85%) Medium grey to dark grey to olive black, silty,	
	occasionally slightly arenaceous, trace carbonaceous material,	
	micromicaceous, trace lithic fragments, soft to plastic, massive to blocky.	
1850-1860m	Nullawarre Greensand	0.15 u BG
	Sandstone with interbedded Claystone	100
9-31m/hr	SANDSTONE: (60-70%) Quartzose, clear to translucent, frosted, light	
20m/hr avg	grey, very fine to predominantly fine, subangular to subround, well	
	sorted, locally weak to moderately strong siliceous cement, common medium clear quartz float, trace muscovite, trace carbonaceous specks,	
	trace fine to medium nodular pyrite, locally kaolinitic inclusions,	
	moderately hard to disaggregated, poor to fair porosity, no fluorescence.	
	CLAYSTONE: (30-40%) Medium dark grey to olive grey, locally very silty	
	grades to argillaceous siltstone in part, trace carbonaceous specks,	
	micromicaceous, soft to plastic, slightly dispersive, massive.	

#### **REMARKS:**

DGR 10 links to DDR 13

### **LWD Offsets from Bit:**

There was an increase in the stick slip on downhole tools with increased WOB.

### Run 2:

GR: 4.9m Res: 4.85m ECD: 4.14m Survey: 12.96m Sonic: 22.37m

Geologists: Roman Leslie / Greg Clota