



# DAILY GEOLOGICAL REPORT

**WELL:** Glenaire-1ST1      **REPORT No.:** 41      **DAYS FROM SPUD:** 41      **DATE:** 19/10/06  
**PL:** PEP 160      **0000 hrs Depth:** 3507 m      **LAST DEPTH:** 3418 m      **PROGRESS:** 89 m  
**LOCATION:** Otway Basin      **Rig:** Ensign 32      **RT elevation:** 76.1 m      **PTD:** 3945 m  
**Northing:** 5 840 813 m N      **Easting:** 499 810 m E      **Ground Level:** 70.0m  
**NEARBY WELLS:** Tullich-1, Mceachern-1, Haselgrove South-1, Heathfield-1

**0600 OPS:** RIH.

**PREVIOUS 24 Hours Operations:** Drill ahead with 152mm hole to 3507m, POOH to layout MWD.

**Comment:** Section from 3440-3450m consists predominantly of a fine to medium grained sandstone, no visible intergranular porosity, no intergranular oil fluorescence; however this section has abundant calcite infilled fractures. Most fractures appear to be solidly cemented with calcite, however some open fracturing is present as evidenced by mud losses through this section of about 20 bbls/hr - this corresponds to the presence of oil fluorescence in some of the fracture infill material. The fractures continue below 3450m, (hosted predominantly by silty claystone) however these have no oil fluorescence and appear to be all tight – verified by no increased mud losses through this interval.

Formation Tops (Wellsite)	Wellsite (mRT)	Wellsite (mSS)	Prognosed (mRT)	Depths (mSS)	Prognosis Diff H/L	
Gambier Limestone	6.1	70	6	70	0	
Dilwyn Formation	29	47	82	-6	53H	
Pember Formation	320	-244	347	-271	27H	
Pebble Point Formation	380	-304	421	-345	41H	
Sherbrook Group	448	-372	487	-411	39H	
Eumeralla Formation	609	-533	656	-580	47H	
Windermere/Katnook Ss	Not Present	n/p	2034	-1958	Not Present	
Laira Formation	1968	-1892	2059	-1983	91H	
Pretty Hill Formation			3746	-3670		
T.D.			3945	-3869		

Interval (m) ROP (ave) min/m	Lithology Description	Gas/Background Breakdown C1/C2/C3/C4/C5
3440 – 3450 (9)	<p>SILTY CLAYSTONE, (20%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, abundant calcite lined fractures, common micromica, hard, subfissile.</p> <p>SANDSTONE, (80%) off white, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, abundant calcite lined fractures, very hard, no visible intergranular porosity, no intergranular oil fluorescence.</p>	150 – 1647 (210) (86:7:3:2:2)
<b>Fluorescence</b>	<p>The fracture infill material has dull yellow mineral fluorescence and trace dull to moderately bright very pale yellow white oil fluorescence giving a weak dull milky white crush cut fluorescence.</p> <p>The sandstone has no intergranular oil fluorescence.</p> <p>The coaly material has no fluorescence but gives a very weak pale yellow crush cut.</p>	

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3450 – 3507 (10)	<p>SILTY CLAYSTONE, (90%) medium to dark grey to medium brown, abundant very fine altered feldspar grains in part, trace to common black carbonaceous flecks and detritus, trace calcite lined fractures, common micromica, hard, subfissile.</p> <p>SANDSTONE, (10%) off white, silty to fine, dominantly very fine, subangular to subrounded, moderately sorted, abundant white argillaceous matrix – matrix supported, very strong calcite cement, moderate silica cement, trace multicoloured lithics, common quartz grains, trace black coaly detritus, trace calcite lined fractures, very hard, no visible porosity, no intergranular oil fluorescence.</p> <p>COAL, (trace) black to very dark grey, very argillaceous in part, earthy to subvitreous lustre, irregular to blocky fracture often contused and striated, hard, brittle.</p>	75 – 1647 (210) (89:6:3:1:1)
<b>Fluorescence</b>	The sandstone has dull orange mineral fluorescence, no cut. The coal has no fluorescence but gives a weak pale yellow crush cut.	

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