

BHPBilliton
#1 OCS-G-26302
Green Canyon 238 – Little Burn
Offshore Louisiana

Sample Range Available:	5240' – 18140'
Sample Range Examined:	5240' – 18140'
Samples Supplied By:	BHPBilliton
Samples Worked For:	BHPBilliton – Hi Res Nannos
Sample Analysis By:	Richard A. Denne 6/05 – 7/05
Sample Processing By:	Ellington and Associates

Nannoplankton Biostratigraphic Summary:

[ABX events noted in bold; Global nannofossil zones in brackets]

5240	First slide – Pleistocene	<i>Gephyrocapsa</i> “small”
		<i>Cyclicargolithus floridanus</i> (reworked)
		<i>Reticulofenestra minutula haqii</i> (reworked)
5300		<i>Reticulofenestra pseudoumbilica</i> (reworked)
5510	>4	<i>Gephyrocapsa parallela</i> [NN19]
5540	5	<i>Gephyrocapsa parallela</i> increase
		<i>Reticulofenestra daviesii</i> (reworked)
5600		<i>Isthmolithus recurvus</i> (reworked)
5660		<i>Gephyrocapsa margerelii</i> frequent
		<i>Cribocentrum reticulatum</i> (reworked)
5690	6	<i>Gephyrocapsa</i> “small” (2 nd) increase
5750		<i>Discoaster deflandrei</i> (reworked)
5810		<i>Pseudoemiliana lacunosa ovata</i> (low)
6290	7	<i>Gephyrocapsa</i> sp. “A”
		<i>Gephyrocapsa margerelii</i> 1 st acme
6860	8	<i>Gephyrocapsa</i> sp. “A” increase
7040	8a	<i>Pseudoemiliana asanoi</i>
7550	10	<i>Gephyrocapsa</i> “small” acme
		<i>Pseudoemiliana</i> spp. 1 st increase (weak)
9470	11	<i>Scyphosphaera pulcherrima</i>
		<i>Pseudoemiliana asanoi</i> increase
9560	12	<i>Gephyrocapsa</i> “B” (<i>Gephyrocapsa</i> “large” increase)
9620	13	<i>Gephyrocapsa caribbeanica</i> (2 nd) increase
		<i>Helicosphaera sellii</i>

10820	14	<i>Helicosphaera sellii</i> 1 st increase
11060		<i>Triquetrorhabdulus carinatus</i> (reworked)
11180	14a	<i>Gephyrocapsa margerelii</i> 2nd increase
11390	14b	<i>Pseudoemiliana lacunosa</i> group 2nd increase
11780	15	<i>Calcidiscus macintyre</i> <i>Pseudoemiliana lacunosa</i> group acme <i>Lithostromation perdurum</i> <i>Ericsonia formosa</i> (reworked)
11810	16	<i>Calcidiscus macintyre</i> increase [NN18] – Upper Pliocene <i>Helicosphaera sellii</i> 2 nd increase
11870		<i>Reticulofenestra minutula minutula</i>
12740	18	<i>Discoaster pentaradiatus</i> [NN17] <i>Ceratolithus rugosus</i> (low) <i>Coccolithus pelagicus</i> “bar” increase <i>Reticulofenestra minutula minutula</i> common <i>Transversopontis obliquipons</i> (reworked) <i>Sphenolithus abies</i> (reworked)
12830		<i>Discoaster brouweri</i> “A” increase <i>Umbilicosphaera cricota</i>
14090	20	<i>Reticulofenestra minuta</i> dominant [NN16]
14870	21	<i>Cycloperfolithus carlae</i>
16280	22	<i>Discoaster</i> spp. increase <i>Discoaster surculus</i> (low) <i>Sphenolithus verensis</i> (reworked)
16310		<i>Sphenolithus heteromorphus</i> (reworked)
16340		<i>Discoaster tamalis</i> (low) <i>Discoaster asymmetricus</i> (low)
16430		<i>Discoaster decorus</i>
16520	22a	<i>Cycloperfolithus carlae</i> consistent
16550		<i>Scyphosphaera conica</i>
16580		<i>Reticulofenestra pseudoumbilica</i> (reworked)
16820		<i>Sphenolithus abies</i> (reworked)
16880		<i>Reticulofenestra pseudoumbilica</i> (reworked)
16910	23	<i>Sphenolithus abies</i> <i>Cycloperfolithus carlae</i> increase <i>Coccolithus pelagicus</i> increase <i>Reticulofenestra pseudoumbilica</i> (reworked)
16940 – 17000		Sample gap
17000		<i>Discoaster tamalis</i> increase <i>Reticulofenestra pseudoumbilica</i> (reworked) <i>Sphenolithus moriformis</i> (reworked)

17060	25	<i>Sphenolithus abies</i> increase [NN15] – Lower Pliocene <i>Dictyococcites productus</i> increase <i>Reticulofenestra pseudumbilica</i> <i>Reticulofenestra minutula haqii</i>
17210		<i>Sphenolithus verensis</i>
17510	26	<i>Reticulofenestra pseudumbilica</i> consistent
17540	27a	<i>Sphenolithus abies</i> acme
17600	27	<i>Reticulofenestra pseudumbilica</i> increase (weak)
17690	28	<i>Dictyococcites antarcticus</i> <i>Reticulofenestra pseudumbilica</i> “A” <i>Pontosphaera multipora</i> increase <i>Scyphosphaera globulata</i> <i>Sphenolithus abies</i> “A”
17780		<i>Helicosphaera rhomba</i> <i>Discoaster bollii</i> (reworked)
18110 – 18140		Last slide to be examined

Notes:

1. The highest samples with more than a few in-place specimens contained good occurrences of *Gephyrocapsa parallela*, suggesting a position at or below Event 5.
2. The *Gephyrocapsa* “small” increase at 5690’ contained higher than expected numbers of *Gephyrocapsa margerelii*, but still lower than those seen at the *Gephyrocapsa* sp. “A” top at 6290’. Because of this, the terminology for Event 7 has been changed from *G. margerelii* increase to an acme.
3. The *Gephyrocapsa* “small” acme at 7550’ was not particularly strong and was not supported by a minor abundance increase at 7730’ (which may be caved).
4. Event 13 (*Gephyrocapsa caribbeanica* 2nd increase, *Helicosphaera sellii* consistent top) was found only a few samples below Event 12 (*Gephyrocapsa* “B”), whereas in the GC 282 #1 well it was picked just above Event 14. As *H. sellii* was picked in that well just below Event 12, it is likely that Event 13 was picked low in the GC 282 #1 well. An abundance increase was found in the current well just above Event 14 at 10760’, which probably correlates to the Event 13 pick in the GC 282 #1 well.
5. The *Calcidiscus macintyreii* increase at 11810’ is age equivalent to the *Discoaster brouweri* top, although the first downhole occurrence of *D. brouweri* wasn’t seen until 12830’.

6. Several specimens of *Sphenolithus abies* and *Reticulofenestra pseudoumbilica* were found between 16520' and 16910'. Based on the succession of assemblage changes in subsequent samples, these are believed to be reworked. Especially indicative are the three increases associated with Event 23 (*Cycloperfolithus carlae*, *Coccolithus pelagicus*, and *Discoaster tamalis*), all of which were found either between 16910' and 17000'.

7. The *R. pseudoumbilica* increase pick (Event 27) at 17600' was based on only 9 specimens in 4 traverses, which is lower than would be expected. Unfortunately, the next 30' interval is missing, so the only true support for this pick is its position between Event 27a at 17540' and Event 28 at 17690'. Both of these are strong picks.

abundance counts based on 4 traverses

Depth (ft)	ABX Nannofossil Events & Biostratigraphic Comments	Nannofossil Abundance (area) & Diversity (line)	Reworked Cretaceous Abundance	Preservation
		Specimens (Area) 0 15000 30000 Species (Line) 0 25 50	0 400 800	
5400	FIRST SLIDE - PLEISTOCENE			G-00D
	>4 - GEPHYROCAPSA PARALLELA INCREASE			G-00D
5700	6 - GEPHYROCAPSA "SMALL" 2ND INCREASE			G-00D
	GEOPHYROCPSA MARGERELII FREQUENT			G-00D
6300	7 - GEPHYROCAPSA SP. "A"; G. MARGERELII 1ST ACME			G-00D
6900	8 - GEPHYROCAPSA SP. "A" INCREASE			G-00D
	8A - PSEUDOEMILIANIA ASANDI			G-00D
7500	10 - GEPHYROCAPSA "SMALL" ACME; P. LACUNOSA INCREASE			G-00D





