



## Daily Drilling and Scientific Report for IODP Expedition 325, Great Barrier Reef Environmental Change

3<sup>rd</sup> April 2010 (0000 - 2400 local time)

### 1. Location

NOG\_01B Site 2

Time zone: Brisbane Australia Time, UTC +10

Position at midnight (on station M0057A):

Latitude: 17° 06.31266 S

Longitude: 146° 33.83943 E

### 2. Activity summary

Coring operations were completed at M0056A. The vessel then transited ~1.1km to NOG\_01B Site 2 M0057A, where HQ coring operations began, continuing until midnight.

### 3. Science report

Core 10R advanced to 29.09 mbsf and contained 40 cm of broken white rudstone-floatstone with visible Halimeda and benthic forams. No corals were observed. Core 11R continued to 30.56 mbsf and recovered another 84 cm of the same lithology. Core 12R continued to 32.09 mbsf but had no recovery indicating an interval of unlithified sediments between 30.59-32.09 mbsf. The drillers switched to a basket catcher and conducted a 3m run in hopes of recovering this material. Core 13R advanced to 35.09 mbsf, and encountered little resistance in the first to 2 m but hard resistance over the last 1 m. This was consistent with the cored materials, with no recovery in the top 2 m but the bottom recovered ~ 1 m coral framestones composed of massive *Galaxea* and *Porites* with interlayered coralline algal crusts and grainstones likely recovered between ~ 34.09-35.09 mbsf. Core run 14R advanced another 1.8m and once again recovered white, Halimeda dominated rudstones/floatstones down to 36.89 mbsf. Core 15R advanced to 38.29 mbsf and recovered more rudstones/floatstones with a massive *Galaxea* jammed in the core catcher. Core 16R continued to 41.29 and recovered 16 cm of Halimeda dominated rudstones/floatstones.

Core 1R (M0057A) consisted of 55cm of framestone containing cavities. Core 2R recovered 83% of a 1.5m run, recovering framestone with corals. Many borings in the framestone were visible. Core 3R advanced to 8.68 mbsf and recovered framestone. Poor recovery may have been due to a sandy layer at

the top of the section. Cores 4R and 5R captured distinct framestone. A massive single colony of *Acropora* was seen in the upper section of core 5R. Core 6R (76% recovery) consisted of coral framestone including massive coralline algae crusts. Coral framestone was also retrieved in Core 7R, which advanced to 20.68 mbsf.

#### 4. Core recovery details

<b>Hole</b>	M0056A	M0057A
<b>LAT water depth</b>	81.22m	39.21m
<b>Cores recovered</b>	10R – 16R	1R – 8R
<b>Drilled length</b>	15.2m	22m
<b>Recovered length</b>	2.38m	9.36m
<b>Recovery</b>	15.66%	42.55%
<b>Depth at midnight</b>	41.29mbsf (final depth)	23.18mbsf

#### 5. Weather

Sea state: moderate (4) with a swell of 1.25 – 2.5m; wind direction ESE becoming SE by early morning swinging to E by midnight, force 5 (17 – 21 knots) decreasing to force 4 (11 – 16 knots) during the day before increasing to force 5 by midnight; overcast; periodic heavy showers; 28°C.

Next 24 hrs: Sea state moderate with swell of 1.7 m in open waters; wind direction SE 15 – 20 knots; patchy rain, scattered showers and isolated thunderstorms.