



## **Daily Drilling and Scientific Report for IODP Expedition 313 New Jersey Shallow Shelf**

**5<sup>th</sup> June 2009 (0000-2400, local time)**

### **1. Location**

Hole MAT-2D (Hole M0028A).

Time zone: US Eastern Time, UTC -4

Position at midnight:

Latitude: 39° 33.94279' N

Longitude: 73° 29.83481' W

### **2. Activity summary**

To through-pipe gamma log from ~390 mbsf to seafloor and then run HQ pipe inside the PQ string to continue coring activities, following the PQ string becoming stuck at 403.79 mbsf.

### **3. Science report**

Medium quartz sand blocked the bit in Core 70R (403-404 mbsf) and required retrieving the core barrel before full penetration had been achieved. This marked the beginning of a frustrating struggle at the start of the day. Two more coring efforts, with the drill string getting stuck several times, advanced the bit only to 403.79 mbsf and recovered coarse to very coarse quartz sand, shell fragments and a slurry of dark silty drilling mud containing organic matter that suggested a lagoonal depositional environment. The drill pipe could be rotated, but a constriction a few meters above the slightly wider reaming tabs of the bottom hole assembly prevented raising it any further to clear the cutting face. By mid-morning the decision was made to switch to drilling and coring with the smaller diameter HQ pipe, leaving the existing PQ pipe in place as casing. While rigging that changeover, a spectral gamma ray through-pipe log was run, and it returned excellent results from 390 mbsf to the seafloor. The late afternoon to evening was devoted to lowering HQ pipe to resume coring, but a significant amount of cave-in was found that for the remainder of the day required clearing.

### **4. Core recovery details**

<b>Hole</b>	M0028A
<b>Cores recovered</b>	1
<b>Drilled length</b>	0.77m
<b>Recovery length</b>	0.57m

<b>Recovery</b>	74%
<b>Depth at midnight</b>	400.29 mbsf

## 5. Weather

Sea swell 3 - 5 ft; NE wind direction; wind speed 15 - 25 kt gusting to 32 kt; overcast with rain all day; 13°C.

Next 24 hrs: Sea swell 4 - 6 ft subsiding 3 – 4 ft by the afternoon; N winds around 10 – 15 kt with gusts up to 20kt becoming E diminishing to 5 – 10 kt; 21°C.