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

18th May 2009 (0000-2400, local time), and
19th May 2009 (0000-0600, local time)

1. Location

Hole MAT-1A (Hole M0027A).

Time zone: US Eastern Time, UTC –4

Position at midnight:
Latitude: 39° 38.04606' N
Longitude: 73° 37.30146' W

2. Activity summary

Coring operations ended at Hole MAT-1A (M0027A) due to technical difficulties (see below). Begin wireline logging program, starting with through-pipe gamma ray.

3. Science report

This was the last day of coring at MAT1. We had crossed the Oligocene/Eocene boundary by midnight, indicated by a change to brownish, slightly glauconitic clays. We recovered 30 m of good cores in the Upper Eocene, made up of a quite monotonous series with very subtle changes in composition. From base to top, we probably cored two progradational trends bounded, on seismic lines, by a high amplitude reflector. The two trends are (1) clays and glauconitic clays, giving rise to foram bearing, fine to medium-grained sandy and silty clays overlain by (2) expanding glauconite clays passing upward to foram bearing, shelly, bioturbated glauconitic clays. Coring may have ended ~20 m from the base of the Priabonian, with a very good record of the Oligocene/Eocene climatic transition and (hopefully) tektites from the Chesapeake Bay meteorite impact.

4. Core recovery details

Hole	M0027A
Cores recovered	214R to 224R (11 cores)
Drilled length	30.5 m
Recovered length	26.15 m
Recovery	85.74 %
Depth at midnight	631.01 mbsf (TD of M0027A)

5. Weather
Sea well 2-5ft; wind direction N; wind speed 10-20 kt (gusting 25 kt); some rain; 16°C.
Next 24 hrs: sea swell 2-3 ft; wind direction variable, becoming SE; wind speed 5-10 kt; dry; 20°C.