1. Location

Hole MAT-3A (Hole M0029A).

Time zone: US Eastern Time, UTC –4

Position at midnight:
Latitude: 39° 31.1705’ N
Longitude: 73° 24.7925’ W

2. Activity summary

Coring operations at Hole M0029A (MAT-3A).

3. Science report

Today, drilling pace slowed, as did core recovery rates, due to drilling through a set of hardgrounds interbedded with soft material. We recovered 10 cores and 24.5m of sediment between 620 and 648 mbsf. Four cores recovered were shorter than the usual 3m run, being cores 169R (1.90m), 172R (1.62m), 173R (1.62m) and 176R (1.22m). However, cores 172 R and 173R were only short drilling runs, and so recovery was still >90%.

The recovered sediment shows three main facies.

1- Dark, brownish-grey, burrowed, clayey silt with abundant micas, forams and fish scales (167R, 176R);

2- Dark greenish-brown, silty clayey sand, with detrital medium to coarse grained glauconite (c.30%), quartz (c.10%), and glauconite aggregates (c.20%) in a brownish sideritic clayey silt matrix (169R, 170-171R, 173R)

3- Dark greenish grey, coarse to very coarse grained sandstone with subrounded glauconite grains (c.40-60%), and subangular quartz grains (c.10%), in a pyritized, sideritic siltly matrix (168R, 172R, 174R, 175R).

The interbedding of soft sand and silt with hard sandstone is likely to represent the high amplitude reflector observed in the Oc270 529 seismic reference line, along the m5.3 Lower Miocene unconformity. The first occurrence of a glauconite sandstone hardground in core 172R at 636 mbsf could represent its lithological expression.
4. Core recovery details

<table>
<thead>
<tr>
<th>Hole</th>
<th>M0029A</th>
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</thead>
<tbody>
<tr>
<td>Cores recovered</td>
<td>167R – 176R (10 runs)</td>
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<tr>
<td>Drilled length</td>
<td>27.45 m</td>
</tr>
<tr>
<td>Recovered length</td>
<td>24.53 m</td>
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<tr>
<td>Recovery</td>
<td>89.36 %</td>
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<tr>
<td>Depth at midnight</td>
<td>651.26 mbsf</td>
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</tbody>
</table>

5. Weather

Sea swell 5 - 6 ft decreasing to 2 – 3 ft by late afternoon; SW 10 – 15 gusting to 30 kts; cloudy with sunny periods; 22°C.

Next 24 hours: sea swell 2-4 ft; N winds 10-15 kt becoming NW 5-10kt by the afternoon; slight chance of thunderstorms and showers late morning; 23°C.