

**Daily Drilling and Scientific Report for IODP Expedition 347,  
Baltic Sea Paleoenvironment**



**29<sup>th</sup> Oct 00:00 – 29<sup>th</sup> Oct 24:00 GMT**

**1. Location**

10° 6.483' E 55° 0.305' N

BSB-3, Lille Baelt.

**2. Activity Summary**

Completed hole M0067B before transiting to BSB-3 (M0059D) and commencing operations.

**3. Science Report**

We started with piston coring of the second hole at the Lille Baelt site, BSB-4. The upper few meters were clayey sand, again with some gravel, organic fragments, charcoal and benthic foraminifera. Interestingly, most of the foraminifera in this hole were agglutinated. Below the top core, the sediment was sand and then well sorted gravel. The grain size became finer again with depth and at 11 mbsf fine sand with stones was recovered. Due to the continuation of loose gravel and sand, however, the hole was evaluated to become too unstable and drilling was stopped.

We then returned to BSB-3 and drilled a second complete hole for paleoceanography in order to ensure a good continuous depth record. Also a second hole for microbiology was planned. Hole M0059D was started in the early morning and cored down through black, gyttja-clay. Already from 1 mbsf gas bubbles developed in the cores on the deck and the following cores were increasingly rich in gas bubbles. Yet, the expansion of the cores was very modest.

This type of black gyttja-clay was present at this site down to 50 mbsf where it gradually converted into a homogeneous dark greenish grey gyttja-clay. The black gyttja-clay was relatively rich in fossils such as benthic foraminifera, bivalve shells and organic matter in the upper part but showed a decreasing trend down core. From 51 mbsf was a homogenous pure, non-fossil bearing clay recorded turning into a greyish brown glacial clay recording only reworked foraminifera at c. 60mbsf. The glacial clay unit, at some levels with visible varves, extended down to the bottom of this hole.

**4. Core Recovery Details**

| Hole                       | M0067B    | M0059D     |
|----------------------------|-----------|------------|
| Cores recovered            | 2         | 28         |
| Drilled length (Coring)    | 1.2m      | 86.57m     |
| Drilled length (Open hole) | N/A       | N/A        |
| Recovered length           | 2.62m     | 92.54m     |
| Recovery                   | 218.33%   | 106.9%     |
| Depth at Midnight          | 10.7 mbsf | 86.57 mbsf |

**5. Weather**

Heavy rain showers, wave heights of 0.5 – 1.25 m; winds SW, 18 - 35 kts, gusting to 40 kts; Max 12°C.  
Next 24 hrs, Light rain with isolated showers becoming fair towards the end of the day, wave heights of 0.6 – 0.8 m, winds WSW predominantly, 19 - 21 kts, gusting to 26 kts. 12°C.  
A deep low moving into the UK will cross into the North Sea by the end of Wednesday bringing a front through.

**6. Planned Activity for the next 24 hours**

Continue coring at BSB-3.

7. Photo of the day



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