

25<sup>th</sup> Oct 00:00 – 25<sup>th</sup> Oct 24:00 GMT

### 1. Location

15° 28.638' E 55° 28.104' N

BSB-7C, Bornholm Basin

### 2. Activity Summary

Completed coring operations at M0065B before moving to M0065C and recommencing operations.

### 3. Science Report

We started to drill the second paleo hole, M0065B, in the Bornholm Basin. The sequence of sediments was very similar to Hole M0065A, with black to greenish-grey Holocene gyttja-clay down to 14 mbsf where it changed to light-brown glacial clay. The clay was uniform with no detectable varves. Below 40 mbsf it changed to sandy clay and at 46 mbsf we encountered hard sand. A 1 m long piston core and then a hammer core were retrieved from the sand and samples were taken for OSL dating.

The first analyses of methane and interstitial water chemistry are now available from Hole M0065A. Interestingly, while methane was highly super-saturated in the Holocene mud it dropped to near-zero in the middle of the glacial clay. The methane profile did not resemble a simple downward progressing diffusion front but rather seemed to indicate a sink for methane within the iron-rich clay. Further chemical and microbiological studies are required to determine the mechanism of methane removal.

After M0065B was finished we moved 40 m to a new position for the microbiology hole. The uppermost 2 meters of sediments was washed down before the actual sampling commenced. As the coring frequency was directed by the possibility to process the microbiological sampling the progression went very smoothly without bottlenecks or long waiting time.

The general stratigraphy from the two previous holes on site BSB-7C was repeated with a Holocene dark greenish grey gyttja-clay down to c. 10 mbsf followed by a 3 m thick sequence of homogeneous dark bluish grey clay. Below these sediments are a brown glacial clay recorded, at some levels varved and at others homogeneous.

### 4. Core Recovery Details

Hole	M0065B	M0065C
Cores recovered	15	13
Drilled length (Coring)	41.0m	42.9m
Drilled length (Open hole)	2.0m	2.0m
Recovered length	42.72m	45.72m
Recovery	104.20%	106.57%
Depth at Midnight	49.30 mbsf	44.90 mbsf

### 5. Weather

Fair, wave heights of 0.6 – 1.6 m; winds W to SSW, 12 - 27 kts, gusting to 30 kts; Max 14°C.

Next 24 hrs: Isolated showers, wave heights of 1.0 – 1.9 m, winds S becoming WSW, 23 - 31 kts, gusting to 29 kts. 12°C.

A series of low pressure systems will pass to the north, increasing SW to WSW winds.

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

Complete coring and logging operations at BSB-7C, Bornholm Basin and move to alternate site BSB7D.

7. Photo of the day



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