

**Scientific Report for IODP Expedition 347
Baltic Sea Paleoenvironment**

20th February 2014 12:00 local time



1. Location

IODP Bremen Core Repository, MARUM, University of Bremen, Germany
Onshore Science Party

2. Activity Summary

Core splitting was completed on February 16th, a day ahead of the estimated schedule. Analyses and sampling of core material continued during February 16th to 19th with sampling of the Rumohr cores also being completed. The remainder of the OSP was spent finalising report writing. The OSP ended on February 20th. In total Expedition 347 processed 1622.76m of core and collected 32,835 samples.

3. Schedule

The schedule was as follows:

Site M0059 Core splitting, description, analyses, and sampling	January 23 rd – 30 th
Site M0060 Core splitting, description, analyses, and sampling	January 30 th – February 2 nd
Site M0061 Core splitting, description, analyses, and sampling	February 2 nd – 4 th
Site M0062 Core splitting, description, analyses, and sampling	February 4 th – 5 th
Site M0063 Core splitting, description, analyses, and sampling	February 5 th – 12 th
Site M0064 Core splitting, description, analyses, and sampling	February 12 th – 13 th
Site M0065 Core splitting, description, analyses, and sampling	February 14 th – 15 th
Site M0066 Core splitting, description, analyses, and sampling	February 16 th
Site M0067 Core splitting, description, analyses, and sampling	February 16 th
Delivery of results to Expedition Project Manager / Publications	February 20 th

4. Final Status

Site	Total Core Length (m)*	Core Length Measured / Described (m)*	Samples taken (incl. offshore)	Site Chapters - drafts
M0059	406.35	406.35	7705	100% complete
M0060	245.45	245.45	6067	100% complete
M0061	80.79	80.79	2527	100% complete
M0062	83.56	83.56	2750	100% complete
M0063	504.51	504.51	9037	100% complete
M0064	101.50	101.50	1042	100% complete
M0065	143.41	143.41	2765	100% complete
M0066	43.78	43.78	674	100% complete
M0067	13.41	13.41	268	100% complete

* Includes offshore sampled microbiology cores and Rumohr cores

5. Preliminary Scientific Assessment

The third week started with splitting, describing and sampling of cores from the Hanö Bay, Site M0064. Four holes had been drilled at this site to a maximum depth of 45 mbsf. The top 15 meters had been retrieved by piston coring and contained a c. 0.35 m thick sequence of Holocene mud on top of a reddish brown laminated clay and salty clay which in its uppermost c. 0.25 m was altered in color to light grayish. Below 9 mbsf this laminated clay gradually transitioned into a hard poorly sorted diamicton. These layers may provide a valuable record of glacial movements over the site during the late Weichselian.

At the Bornholm Basin, Site M0065 the top 2 m was not cored due to the potential for contaminants associated with munitions. Three holes were drilled at this site, the deepest down to bedrock at 74 mbsf. The sediment was a dark clay of possible Holocene age with a distinct sulfide laminations recorded at 9-13 mbsf. The underlying glacial clay was folded and disturbed in its upper part but was clearly varved in the lower part.

The fourth week started with the second site from the Bornholm Basin, Site M0066, located 0.4 km south of Site M0065, with the purpose of recovering a possible sandy/silty unit. The two holes drilled had both reached about 28 mbsf and ended in sand. The Holocene clay at this site was thin and as the top 0-2 mbsf was not cored due to potential contamination, little of this was recovered. Piston cores of glacial clay were recovered down to about 14 mbsf while mostly short cores had been retrieved below that depth due to the hard sandy clay to sand.

At Site M0067 in the Little Belt, north of Site M0059 and at shallower water depth of 23m, two holes had been drilled. Below the top ca 4 m of core the sediment changed from clay and sandy clay into sand and gravel. Drilling was terminated at approximately 11mbsf as a result of the lithologies encountered.

While drilling in the Ångermanälven Estuary (Sites M0061 and M0062), a number of approximately 1-m long Rumohr cores were collected, of which two cores from each site were sub-sampled onshore. The purpose with these shorter surface cores was to obtain high-resolution data from the youngest part of the varved sediments, reaching up to the sediment surface. Subsampling for determination of microfossils, sedimentation rates, and magnetic properties was done at 1-2 cm depth resolution during Week 4.



All photos copyright of ECORD-IODP with the exception of the group photograph courtesy of Volker Diekamp, MARUM.