

Gas Hydrate Instability in the Southeastern Bering Sea
Contract No. DE-FC26-05NT42665

Quarterly Progress Report

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Period: April-June 2006
NETL Manager: Kelly Rose
Principal Investigator: Lloyd Keigwin

Progress

Task # 3.0
Task Paleomagnetic Analysis

Postdoctoral investigator Mea Cook repaired WHOI's Geotek Multi-sensor Core Logger (MSCL) system and measured the magnetic susceptibility of core 57JPC. She found that this core is suitable for further paleomagnetic analysis, and that the sedimentation rate of this core appears to be comparable to the type section from this region, 51JPC.

Steve Lund traveled to WHOI in June and collected U-channel samples from cores 57JPC and 55JPC in order to test the reproducibility of his data from 51JPC.

Task # 4.0
Task Core Sampling

Once 57JPC was found suitable as a core in which to reproduce the record from 51JPC, Mea Cook sampled the core at coarse resolution during the time period of interest, as estimated from the magnetic susceptibility.

Task # 5.0
Task Sample Preparation

Mea Cook is in the process of preparing the coarse resolution samples from 57JPC for stable isotope analysis.

Research associate Mary Carman finished preparing the high-resolution samples from 51JPC for stable isotope analysis.

Task # 6.0
Task Mass Spectrometer Work

Eighty samples from 51JPC were analyzed on the mass spectrometer, but the instrument was not functioning properly, and consequently, most of these data are not useable.

Schedule

The mass spectrometer has been repaired. The high-resolution samples from 51JPC and the low-resolution samples from 57JPC will be analyzed when the instrument is next available (early July). If the stable isotope measurements from 57JPC confirm our estimate of the time period covered in the samples, we will sample this core at high resolution.

There was a delay in progress on Tasks 3.0-6.0 caused by the malfunctioning MSCL. However, if the work progresses as expected, these tasks should be completed by the end of the summer.

When we have the isotope records in hand, we will select samples in which to measure radiocarbon dates (Task 7.0) in the two cores.

Other Activities

On 19 June, 2006 Mea Cook presented the latest results of this study in a seminar entitled “Marine Methane Hydrates and Climate Change.” The target audience was the WHOI Summer Student Fellows, undergraduates conducting summer research projects at WHOI.