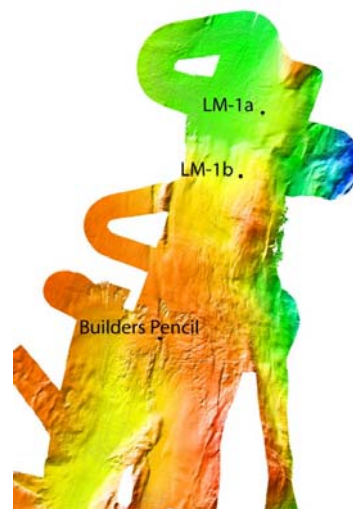


## SO191/1 - 1. Weekly Report

After transit from Darwin, Australia, SONNE arrived at the port of Wellington, New Zealand on the 09<sup>th</sup> Jan. in time. The Ambassador of the Federal Republic of Germany, our project partner the Institute of Geological and Nuclear Sciences Ltd. (GNS) and the ships operating company RF invited to a reception onboard prior to the start of cruise SO191, which was attended by 62 persons. From representatives of the Ministry of Research to journalists from radio and press project and research vessel received broad interest. The co-operation between research institutes of Germany and New Zealand was mostly welcome in terms of an active expression of the agreements about scientific and technical collaboration. Reports about the project were given in the daily press and will be continued during the coming port calls.

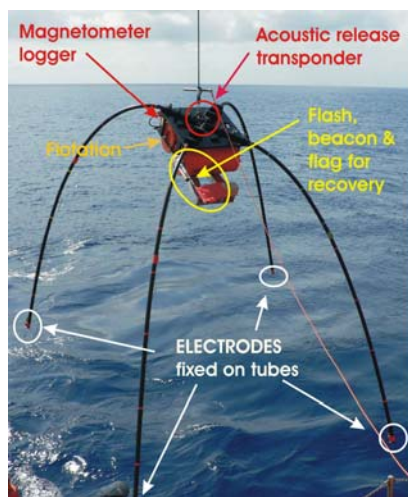
During the 11<sup>th</sup> Jan. the scientific equipment was loaded and the set up of the laboratories started right away. At 08 hrs in the morning of the 12<sup>th</sup> Jan. SONNE left the bay of Wellington on time. 21 scientists from four countries (Germany, New Zealand, Great Britain and Australia) boarded the vessel for this first leg, which will prepare essential mapping and detailed work as basics for the following two legs. Aim of the project is to investigate gas hydrate reservoirs and gas seeps together with the German project COMET, funded by the German BMBF. Major interest is directed towards the circumstances of formation and migration of gases, as well as to the processes at the interface between the seafloor and the water column and a possible entrance into the atmosphere.



Bathymetric chart of the Builders Pencil area

Only a few hours after departure a first bathymetric survey was done to prepare for later operation with the deep towed system, before arriving at the first deployment station after 24 hours.

Unfortunately the program need to be changed right away as the brand new streamer from NIWA failed after a short time. As well a test run of the POSIDONIA navigation system used with the deep towed system was terminated by a complete broke down of the processor board. Other than the streamer this could not be repaired with onboard spare parts and hence an express delivery of a spare board was necessary. Meanwhile this could be picked up in front of the port of Napier, which is only 30 nm away and the test run could be successfully completed.



OBMT during deployment

The scientific program was continued with a first deployment of the deep towed Sidescan at the northern most vent location of the working area, named Builders Pencil and LM-1. The name Builders Pencil was attributed by fisher man according to the shape of a large flare observed in their fish finding echo sounders. During video observations with R/V TANGAROA a 600 m by 300 m wide field of dead mussels was found in November 2006. Beside small active vents are known from the area. The online screen of the sidescan showed a few structures, which might be interpreted as flares. We are waiting for the first mosaic pictures to confirm.

In the following 6 magnetotelluric ocean-bottom stations (OBMT) were deployed. These instruments will stay at the seafloor until the end of leg 3 and will allow to model resistivity distributions of crustal scale. The deployment positions were chosen on top of the seismic line "Night", which will allow to compare modelled anomalies with crustal structures.

At the moment we finish the first working week with regional seismic lines using the repaired NIWA streamer. A shot interval of 15 s requests all compressed air available from the second stage of the compressor. The results are convincing by themselves as already within the single trace display on the online monitor the decollement of the Hikurangi Margin could be imaged.

All onboard are doing well and are happy about the sunny days, which are always interrupted by short living fronts of strong winds.

With best regards on behalf of the cruise participants  
Joerg Bialas