

## Magnetic Properties of Core Sediments from the Okhotsk Deep Sea Basin off the northern Hokkaido

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In order to study environmental changes recorded in deep sea sediments of the Okhotsk Deep Sea Basin, we made rock magnetic analysis of two wide-diameter (12cm) gravity core samples recovered during the GH00 cruise of the Geological Survey of Japan, in 2000. Core GH00-1001 is 490cm in length recovered with its pilot core at 45 5.9093 N and 144 10.1285 E (water depth is 461 m). GH00-1006 is 372.5cm long and recovered at 44 35.5408 N and 144 26.1116E (water depth is 1,348m). We have collected 224 discrete samples from GH00-1001 and 170 from GH00-1006 on board. Low-field susceptibility in low- and high frequencies, anhysteretic remanent magnetization (ARM), and isothermal magnetization (IRM) with various DC field were measured for all samples. Some of the samples were tested with low- and high-temperature magnetic measurements and also with a hysteresis measurement. The data were first examined as downcore profiles and following three characteristics were found. The first, three very sharp peaks in susceptibility and in other parameters were observed. We thought these are caused by increased magnetic minerals provided with a tephra and thus used for core-core correlation. And further these magnetically identified tephra layers are correlated with Ta-c, Mu, and Ma-f wide-spread tephra in descending order. Second, most downcore profiles show simultaneous step down changes but in different depth between two cores. Magnetic grain size also decreased below the each step in two cores. This kind of change could be indicating the change in environmental condition in the sedimentary basin. Thirdly, relatively wide peaks are found in rock magnetic profiles. The sediment showing such wide peak features rather coarser lithology. Such coarsening was also clearly indicated with rock magnetic methods. We consider these wide peaks are suggesting some kind of aerial environmental changes to provide coarser detrital material into the Okhotsk.