

Preliminary results of the cruise KY07-14 -site survey of the Kanto Asperity Project (KAP)-

Kiichiro Kawamura[1]; Satoru Muraoka[2]; Yujiro Ogawa[3]; Fujio Yamamoto[4]; toru nakasone[5]

[1] FGI; [2] Geoscience, Univ. of Tsukuba; [3] Earth Evolution, Univ. Tsukuba; [4] JAMSTEC; [5] NME

<http://www.fgi.or.jp>

The forthcoming Kanto Asperity Drilling Project (KAP) will focus on the analysis of the early phase of the deformation and depositional system in the Sagami Trough and Boso Canyon. The proposed drilled sites are chosen at the floor of the Sagami Bay off the Izu Peninsula (SAG-1C, SAG-2B and SAG-3B) and Boso Canyon off the Boso Peninsula (e.g. BOS-1B). The cruise KY07-14 by R/V KAIYO of JAMSTEC was aimed at clarifying the sedimentary succession of these sites, in the period from Nov. 5- 15, 2007.

Topographic survey in the Boso Canyon was performed during the cruise, while four piston cores (PC-01 to PC-04) and two gravity cores (GC-01 to GC-02) were obtained in the Sagami Bay and Boso Canyon. Sedimentary facies of the collected cores together with the topography obtained are reported in detail, and the sedimentary system deduced from the observation will be discussed in this paper.

The surveyed area in the Boso Canyon occupies the area from the point 34:30'N, 139:50'E to the point 34:55'N, 140:25'E ranging from the Boso Canyon to the Sagami Trough off Boso Peninsula. The coring site of PC-04 was located on a foot of a landward slope between the Sagami Trough and the Boso Peninsula at 34:49'N and 139:03'E. The water depth was 2107 m. This site is the BOS-1B of the proposed drilled site. The core sediment of ca. 2.5 m long is characterized by scoriaceous very coarse sand with upward fining structure. The sands include small amounts of shell and coral fragments. These sediments are derived probably from a shallow part of the landward slope and/or coastal area of the Boso Peninsula. Vane shear strength of the muddy sediments is 10-20 kPa.

On the floor of the Sagami Bay, the piston cores were generally collected from the upper part of the proposed drilled sites, and the gravity cores were obtained from the lower part of them. The SAG-1C is located on the west side gentle slope in the Miura Canyon at 35:09'N and 139:26'E. The water depth is 908 m. PC-02 of ca. 2.5 m long and GC-01 of ca. 2 m long were collected from the SAG-1C. The core sediment is characterized mostly by homogeneous hemipelagic clayey sediments. Vane shear strength (same meaning to cohesion of sediments) of the clayey sediments in PC-02 is 5-10 kPa, and that in GC-01 is from 10 to 20 kPa. The shear strengths increase progressively from 5 to 20 kPa throughout upper layer (PC-02) and lower layer (GC-01). The SAG-2B is located on the northern part of the Sagami Trough floor at 35:05'N and 139:21'E. The water depth is 1044 m. PC-01 of ca. 3 m long and GC-02 of ca. 2 m long were collected from the SAG-2B. The core sediment of PC-01 is characterized by homogeneous clayey sediments, and that of GC-02 is interbedded with wavy sand layers, probably turbidite sands. Vane shear strength of the clayey sediments in PC-01 is 5-20 kPa, and that of GC-02 is mostly 20 kPa. The shear strength in the upper layer of the SAG-2B increases rapidly with burial depth. The SAG-3B is located on west margin of the Sagami Trough floor at 34:53'N and 139:15'E. The water depth is 1212 m. In the SAG-3B, core sediment of PC-02 (ca. 1 m long) is characterized by hemipelagic sandy clay. Vane shear strength is mostly less than 10 kPa.

In short, the sediments in the proposed drilled sites are summarized as follows: hemipelagic clay in the Sagami Trough (SAG-1C, -2B and -3B), and Scoriaceous sands in the Boso Canyon slope (BOS-1B). The shear strengths of the sediments from the Sagami Trough are mostly 20 kPa at ca. 4 m in burial depth.