Seismic reflection survey using vibroseis along the Edogawa River, central part of the Kanto Plain, Honshu, Japan.

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We conducted a seismic reflection survey using vibroseis along the Edogawa River in the central part of the Kanto Plain, Chiba Prefecture, Japan. The reflector of Neogene basement is clearly recognized in the depth-converted reflection profile. The Neogene basement is characterized by having a large graben (3000 m in depth) at the northern part of the survey line. P-wave velocity (Vp) of pre-Neogene basement is about 5.0 km/s. Sediments above the basement are divided into two formations (A and B). The upper Formation A is gently tilted to south and about 1.6 km/s in Vp. The lower Formation B fills the graben of the basement and unconformably overlain by the Formation A. The Vp of the Formation B is 3.5-4.5 km/s. According to borehole data near the survey line, the Formation A is correlated with the Pliocene to Pleistocene Kazusa Group. The Formation B is also correlated with Miocene. The graben of our survey line can be connected with those of adjacent seismic lines. It is supposed that the graben structure might be formed by Miocene activities of major faults such as the Tonegawa Tectonic Line or Karasuyama-Sugonuma Fault.