

Paleoenvironment based on foraminiferal, pollen and diatom analyses mainly for the Tokyo Formation in Haneda airport D runway

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Geological sequence of borehole cores in Haneda Airport D runway consists of Kazusa Group, Edogawa Formation, Tokyo Formation, Gravel layers, Nanagochi and Yurakucho Formations in ascending order (Kanazawa et al., 2007; Osato et al., 2007). The Tokyo Formation, known to be the late Pleistocene, includes marine sediments of the last interglacial (MIS-5e). From the core, some marker tephra horizons are intercalated and probably identified as TAU-12 and -7, whose stratigraphical position was established in the Kissawa Formation in Oiso Hills (Machida et al., 1974; Uesugi, 1976).

In this study, sedimentary environments chiefly of the Tokyo Formation and some other layers were reconstructed using fossil pollen, foraminifers and diatoms extracted from sediment cores of Haneda airport D runway.

Pollen assemblage zone of the Tokyo Formation is composed of warmer elements such as *Quercus* (*Lepidobalanus*), *Fraxinus*, *Lagerstroemia*, *Alnus*, along with continuous occurrence of *Hemiptelea*, which characterizes the Tokyo Formation. The uppermost part of the Tokyo Formation, around AP-66 to -65m, the warmer elements were replaced by cooler and wet ones such as *Tsuga* and *Cryptomeria*.

According to analyses of fossil foraminifers and diatoms, after the regressional stage of Tokyo Gravel (from AP-84m to -78m), in the lower part of the muddy horizon from AP-78m to -65m, the sedimentary environment is in tidal to inner-bay environments, and in the middle to the upper part it changes into deeper inner-bay by the advancement of the transgression. In the uppermost part (from AP-66m to -65m), it became somewhat regressive.

These results suggest that the climatic condition of the Tokyo Formation is characterized by the warming stage from MIS6 to MIS5e first, then the warmest peak of MIS5e, and finally quick shift to cooling stage of MIS5d.