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Early Pleistocene tephrochronological study on the underground geology at the Inokashira Park in Mitaka City, Tokyo

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It is well known that a Quaternary marine sediment named Kazusa Group is distributed in the Tama Hills and the underground of the Musashino Uplands, Tokyo, central Japan. In this study, a boring core obtained by boring surveys conducted at the Inokashira Park in Mitaka city (Mitaka core: MTK), center of Musashino Uplands, is reexamined. Many tephras named MTK-01 to MTK-41 in descending order in the Mitaka core were collected with the detailed descriptions. They were analyzed and compared with other tephras previously studied in the Tama Hills and Boso Peninsula. On the basis of these data, the tephrostratigraphy of underground geology and geological structure were examined. As a result, it was revealed that five tephras in Mitaka core can be correlated with the tephras in Boso peninsula and the Tama Hills.
MTK-06 and MTK-09 are identified as Negata-Yurigaoka Tephra (NG-Yr) and Yomiuri Tephra (Ym) in the Inagi formation of the Kazusa Group in the northwest part of the Tama Hills. MTK-31 is identified as Kd24 Tephra in the middle part of the Kiwada Formation of the Kazusa Group in Boso Peninsula. And MTK-35 and MTK-37 are identified as Horinouchi 1st Tephra (HU1) and Horinouchi 2nd Tephra (HU2) in the Oyamada formation in the northwest part of the Tama Hills. Especially, HU2 is also identified as the Omine-Kd25 Tephra (1.60-1.65Ma) in the middle part of the Kiwada Formation. Therefore, it was clarified that the sediment with the depth of 18.8 -505.0 m in the Mitaka core is correlated with the middle part of the Kiwada Formation. The inclination of one degree to the northeast direction in the west part of Kanto plains was recognized.

Keywords: tephrochronology, underground geology, Musashino Upland, early Pleistocene