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Subsurface flexure of Uemachi Fault

TAKEMURA, Keiji[1*], KITADA, Naoko[2], INOUE, Naoto[2], MITAMURA, Muneki[3], ECHIGO, Tomoo[2], ITOH, Yasuto[4]

[1]Kyoto Univ., [2]Geo-Reserch Institute, [3]Osaka City Univ., [4]Osaka Prefecture Univ.

In Osaka, Uemachi Fault is one of the famous active faults. It across the center of Osaka and lies in N?S direction mainly and is more than 40 km in length. Pliocene to Quaternary sediment 'Osaka Group' and terrace sediment are found to be deposited in the Osaka Plain and Holocene marine clay layers (Ma13) are covered these plains in order to sea level change. These sediment are very thick layers over 1000m therefore, fault structure are appeared as flexure zone (only vending the strata) and hidden the fault displacement around the surface. The up side on the fault (east side) is modified by erosion and urban development however, many seismic reflection surveys information the fault trace line on a piecemeal basis.

GI database collects more than 40,000 boreholes and includes both geological information and soil properties around Osaka by the Geo-database Information Committee of Kansai Area. In this study, we try to show the flexure zone around central Osaka area and decided the site of borehole drilling site and carried out the survey in order to decide the displacement rate of Uemachi fault. About 2500 borehole data exist in the fault area and made many section using GI base.

In this study, we carried out the drilling the borehole and sampling the core samples in the Sakuragawa flexure zone. About 120m deep core sample were analyzed by tephrochronological method, and correlated around borehole data. Ma5, Ma6 and Ma8 marine clay layers are correlated. The result of compare with the neighbor area, the average displacement speed indicates more active the Sakuragawa flexure rather than Uemachi fault zone. And the results of this drilling indicate the good information to correlate other borehole data around this area.

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Keywords: Osaka, Uemachi Fault, marine clay, flexture structure