

Structure and distribution of frontal fault of Uemachi Fault using borehole data

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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. These are consisted of sand and clay deposit. Clay sediments are classified into marine and non-marine. These deposits are key layer for correlate to each other and these alternating clay layers are deposited due to glacial and interglacial cycle.

In this study, we try to estimate the width of flexure zone using geotechnical borehole database. As a result, the flexure zone is initially distributed along the spray fault (NE-SW) not along the main fault. It indicates that spray fault might be the primary frontal fault in the present. In order to study, we use borehole database called GI-base of KG-Net. KG-Net borehole database has more than 20,000 borehole data around Osaka. At first, we examined the borehole data along the seismic reflection line. And then consider the surrounded area. As a result, folding zone is distributed in the west side of Osaka area.

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