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Sedimentary environment of Holocene deposit in the Osaka Plain and stratigraphy-Next agenda-

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In Osaka Plain, Pliocene to Quaternary sediment Osaka Group and terrace sediment are deposited. These are covered with Holocene deposit at the lower plain and around Osaka bay area. These deposits include fifteenth layers of marine clay; refer to Ma-1, Ma0, and Ma1 to Ma13. Geological study indicates that these alternating clay layers are deposited due to glacial and interglacial cycle. Ma12 and Ma13 are Late Pleistocene and Holocene sediment respectively and are distributed near surface. Geo-database Information Committee of Kansai Area has developed the geotechnical database around Kansai Area. For the development of the geo-database, urban area has been focused because of its social and economical importance.

The relationship between marine clay and sea level change are described in Yoshikawa and Mitamura (1999). Although each marine clay layers are correlate to marine isotope stage, it is not enough to describe every isotope stage because of the stratigraphy data produced on the Osaka plain not to the center of Osaka basin. In 2006, The KIX18-1 was drilled at KIX 2nd runway from surface to the granitic basement rock of the Osaka sedimentary basin, which is the Quaternary sedimentary basin. The borehole has reached the basement at the depth of 1328m. There are several boreholes, which have reached to the basement in the Osaka basin. Most boreholes were drilled around active faults at northern part of the Osaka basin after the 1995 Kobe Earthquake. In contrast, there is no active structure around the KIX18-1. Thus, the KIX18-1 provides the non-tectonic paleoenvironment. The purpose of the KIX18-1 borehole was to evaluate effects of consolidation and to construct the geologic stratigraphy at the southern part of the Osaka basin. The upper part of the KIX18-1 was mainly geotechniclally investigated. The detailed stratigraphy was constructed based on the tephrostratigraphy and paleo-magnetostratigraphy of the KIX18-1. Abundant various data, such as the result of soil testing, locations of soil testing, soil color, core image photograph and so on, were gathered. These data was archived as digital database. In the presentation, we would like to show the archived database. Moreover, as the application of the database, we show the result of the image processing of core images. The result of these researches, marine clay layer fined more than the present study.

Using borehole database, we can understand the spreading the marine layer. On the near by the active fault, these marine layer are vending or disappeared. Subsurface research was carried out around Uemachi Fault. The result indicates the flexure zone come to clear around fault. This zone is important estimate the behavior at the earthquake motion.

In this poster, we describe this study and report the next agenda.

Keywords: borehole, Osaka Group, sedimentary environment, KIX18-1, sea level change, deformation