

## Importance of the sedimentary environments as viewed from dynamic properties of soils of the Chuseki-so

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An earthquake causes serious damage to civil engineering structures, which cannot be avoided unfortunately in Japan. In 1923, Kanto earthquake caused extensive damage to Misato and Kasukabe districts, which are located in a central part of Nakagawa lowland in Kanto alluvial plain. Recently, it was reported that the seismic intensity in Nakagawa lowland was beyond 6.5, in particular, 7 in Kasukabe. It was also found that the ultra soft clay exists in underground clayey soils in Nakagawa lowland. That is, the soil behaves like liquid when it is remolded. Furthermore, the shear wave velocities in PS logging tests are nearly constant in the ultra soft clayey soils, irrespective of the water content and the depth. In order to study dynamic properties of the ultra soft alluvial clayey soil, the shear wave velocities were measured in a triaxial chamber equipped with the so-called bender element. Cyclic un-drained triaxial tests were carried out to investigate the dynamic properties