

## Basement Rocks in the Northeastern Kanto Plain

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The Edosaki observatory well was located at Edosaki Town, Ibaraki Prefecture, and reached at the depth of 1234 m. The basement rocks of this well site have been known as the Ryoike belt on the northern side of the Median Tectonic Line. The stratigraphy at this well is the Shimosa Group, Kazusa Group and the pre-Tertiary clastics in descending order. The cores were recovered from three intervals; 843.00-847.50m (sandstone and pebbly mudstone), 1035.20-1039.70m (alternation of sandstone and mudstone), 1205.30-1209.30m (alternation of mudstone and sandstone). Among them, the sandstones from the latter two intervals were examined by modal composition and chemistry of detrital chromian spinels. The sandstones were also collected from several localities in order to compare with the pre-Tertiary, that is, sandstones from the Choshi, Sanchu, and Nakaminato Groups, and Yorii and Atokura Formations. As a result, the sandstone of the Edosaki core is mainly classified into feldspathic wacke and Dissected Arc in the QFL diagram, and the sandstone corresponds chiefly to the Atokura Formation. The detrital chromian spinels have 0.15 to 0.70 of  $Mg/Mg+Fe^{2+}$ , 0.32 to 0.92 of  $Cr/Cr+Al$ , 0.01 to 0.15 of  $Fe^{3+}/Cr+Al+Fe^{3+}$ , and 0 to 0.3 of  $TiO_2$  wt%. These spinels are characterized by low Ti and high  $Cr/Cr+Al$  (more than 0.6), and are probably derived from the ultramafic rocks such as the depleted mantle wedge. The Atokura Formation lies on the Sambagawa metamorphic rocks as a klippe in the Kanto Mountains. Thus the Edosaki observatory is situated not above the Ryoike belt but above the Sambagawa belt.