# Features of activity history and geological structure of Tsukiyoshi Fault estimated from the dense boring data.

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The activity history and geological structure of Tsukiyoshi Fault was estimated by three dimensional geological structure analysis with the dense boring data and GIS software.

It is appeared that An inclination of this fault becomes loose up to about 180 meters above the sea level around the Tono mine. We confirmed splay fault that was indicated in the existing literature in the west area of the mine.

In the study area, the paleo-river structure was recognized on the surface of unconformity between granitic rocks and Miocene sediments. This structure was canceled with the sediments belong to the Toki Lignite Bearing Formation. The shape of the surface of unconformity between Mizunami Groupe and Seto Group is very smooth. These feature of sedimentary structures indicate that uplift rate and erosion rate had been comparatively gentle in this region. Distribution of thickness of the Akeyo Formation, which covers Toki Lignite Bearing Formation, indicate that the relative subsidence of the region in the south side of the Tsukiyoshi Fault. This feature of geological structures show the synsedimentary normal fault act in the sedimentary stage of Akeyo Formation. Reverse fault motion following the normal fault motion of this fault, that was inferd from result of former study of fault rocks and fractures (Gillespie et al. 2000 ), was recognized with this study. Features of geological structure in the Mizunami Group indicates that activity history of the Tsukiyoshi Fault had a feature of positive inversion tectonics. It is estimated that the normal fault had a accumulation displacement magnitude of 10 - 20 meter, and the reverse fault had a accumulation displacement magnitude of 40-50 m after the deposition of the Oidawara Formation.