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Timing of the last faulting event on the Sekidosan fault of the Ouchigata fault zone, Central Japan

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Sekidosan fault is southeast dipping reverse fault with trending NE-SW, and bounding between the Sekido mountains and Ouchigata plain at the neck of the Noto Peninsula, Ishikawa Prefecture. Sugito et al. (2007) pointed out that the last faulting event had occurred between 850-250 cal.yrBP, whereas the Earthquake Research Committee recognized its timing as between 3200 cal.yrBP - 9 century (Earthquake Research Committee, 2005). We conducted trench excavation and drilling survey for the paleoseismological study at four sites, Mijiro, Sakai, Hongo and Shikinami, on Sekidosan fault in order to obtain the new data to identify the last faulting event of this fault. In this abstract we will show the result of survey and tentative interpretation to them.

A trench and 6 boreholes were excavated at Mijiro site. Trench is excavated on the foot of the flexure on the valley bottom. On the trench walls, humus, silt, sand and gravels deposited after 7000 cal.yrBP were observed. There was no fault in these sediments. Drilling core shows deformation of sediments below the trench floor.

At Sakai site, a trench was excavated on a small scarp on a fan, but this scarp was formed not by faulting, but by erosion. Sediments on the surface of the higher side of this scarp shows they were deposited in wetland. It indicates that trench site could be located on the up-thrown side of the fault concealed in the plain.

At Hongo site, 8 boreholes and a pit were excavated on the both sides of small scarp, which is located on the plain-side of the previous trench site. 2 boreholes were drilled with an angle of 45 degree and others are vertical. From the section and age data of sediments, this scarp could be formed by faulting, but more age data are required to identify the timing of it.

3 boreholes and a pit were excavated at Shikinami site. From the geological section of this site, the scarp was identified as formed by erosion. But existence of humic silt with age of around 7000 cal.yrBP and those elevation of 6-7 m above sea-level, indicate this site could be tectonically uplifted. Based on the age data from the pit, the last uplift event seems to be occurred in historical age.

Keywords: active fault, faulting history, paleoseismological trench excavation, drilling survey, Sekidosan fault, Ouchigata fault zone