

Arrayed boring survey across the eastern extension of the Kawakami fault of the Median Tectonic Line active fault zone i

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We drilled four cores across the estimated fault line of the Kawakami fault at Yokoguro in Saijyo-city to obtain geological evidence for the eastern extension of the Kawakami fault. The drilled length of each core is core A: 27 m, B: 25 m, C: 30 m and core D: 28 m in the direction of N to S. Then we conducted geological observation, recognition of volcanic ash, color measurement, pollen analysis, measurement of magnetic susceptibility value, and microfossil analysis.

The observation and analyses results are as follows.

(1) Core samples are divided four units (Unit 1 to 4 in descending order) based on geological characteristics. Unit 4 and 3 are channel deposits composed of pebbles in late Pleistocene. Unit 2 is brackish water environment to marine deposits in late Pleistocene to Holocene. Unit 1 is channel deposits composed of pebbles in Holocene.

(2) The all four units are recognized on the cores A, B and C, but the core D does not reach the Unit 4.

(3) The upper horizon of the K-Ah volcanic ash on cores A, B and C is 2 m shallower than core D. The boundary between the Unit 3 and Unit 4, which are beneath the K-Ah volcanic ash layer, on the core C is 9 m or over shallower than core D. Therefore, the depth differences of each correlation layer between the core C and D increase toward the deeper part.

(4) The thicknesses of each unit on the core C are thinner than core D. For instance, the thickness of the Unit 2 is 2.8 m on the core C and 4.5 m on the core D. The thickness of the Unit 3 is 10.15 m on the core C and 16.5 m or over on the core D.

These results indicate that there is probably the Kawakami fault between the core C and D, and the Kawakami fault has caused repeatedly fault displacements downthrown to the south. The average slip-rate in vertical sense of the Kawakami fault is calculated as about 0.27 mm/yr at the research point based on the amounts of fault displacements (2 m) after the eruption age (ca. 7300yBP) of the K-Ah volcanic ash.

Keywords: Median Tectonic Line active fault zone, Kawakami fault, fault distribution