

CRACK-FILLING CLAYS,WEATHERED CRACKS AND CONSOLIDATED VEINS IN THE 1800M AND 600M DRILLING CORES NEAR NOJIMA FAULT,JAPAN; EVIDENCES FOR THE SURFACE-WATER FLOW INTO DEEP ACTIVE FAULT FRACTURED ZONE

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The Nojima fault, the earthquake fault for the Southern- Hyogo Prefecture Earthquake(M7.2), runs almost parallel to the northwest coastline of Awaji Island. It is several hudred meters inside from the coast, stretching from northeast to southwest. The core was taken from the 1800m University and 600m GSJ bore holes to survey the fault, in which were recognized to the bottom of the hole many weathered cracks. Several of unconsolidated brown clay veins which filled opening cracks were alsorecognized. Consolidated brown-colored hard veins are also recognized. As a result of the X-ray powder diffraction these clays are composed of clay minerals and carbonates such as siderite and calcite.Thin sections clarified the consolidated veins are also composed of carbonates. The top of the bore hole was about 45m above the sea level, so most of the core was far below the stable groundwater table. Then these phenomena are very rare. We think that the cause of these weathered cracks and clay veins was the flowing- in of groundwater near the ground surface along the Nojima fault fractured zone before or after the earthquake. Consolidated carbonates veins are considered to be formed from unconsolidated clays,and increased the strength and decreased the permeability of the fractured zone after earthquakes.