

SCG068-P02

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Development of Hydrologic Characterization Technology of Fault for Preliminary Investigations: Fault Type Classification

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NUMO and LBNL have carried out a project to develop an efficient and practical methodology to characterize hydrologic property of fault since 2007, for the early stage of siting a deep underground repository. In the project, we tried construction of the type classification method based on the hydrologic characteristic of a fault, and applied the method to the Wildcat fault in Berkeley, California, US. The Wildcat fault is non-active right-lateral strike-slip fault which is believed to be a splay of the active Hayward fault. Our type classification assumed the contrasting hydrologic feature between the linear northern part and the spread southern part of the Wildcat fault. At the southern part at which fault spreads, it was expected that the continuity of fault was scarce and there was a groundwater flow across the fault. For the purpose of verifying the validity of this type classification, geological survey, geophysical exploration and hydrologic tests of the southern part of the Wildcat fault were carried out. However, from the result of hydrologic tests, it is expected that the Wildcat fault has interrupted the groundwater flow across the fault. The type classification method is due to be improved based on these results of field survey and borehole tests.

Keywords: Fault, Hydrologic characterization, Type classification, Preliminary Investigation