Development of Hydrologic Characterization Technology of Fault Zones for Preliminary Investigations

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NUMO and LBNL have been developing a systematic methodology of investigation and evaluation for understanding and estimating hydrologic characteristics by considering geological characteristics of fault. We carried out borehole survey for understanding characteristics and structure of the Wildcat fault, which runs in LBNL, measurement of water level and water pressure and hydrologic test in boreholes. We report the results of core observation, microfossil analysis, radiometric dating (U-Pb), thin section observation and characteristics of geology and geological structure obtained through correlation between BHTV data and core observation. Major faults exit on formation boundaries or with ‘tuff’, ‘tuff breccia’ together. Four major faults were recognized in the south part of the Wildcat fault and they form a duplex-like structure that branches southeastward.