

HDS024-P02

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Offshore active fault survey "Unzen Fault Group" (2) -Short multichannel sonic survey using boomer source

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We have conducted high-resolution shallow sonic survey using boomer source and 12-channel, 2.5-m-channel-interval mini streamer in Shimabara and Tachibana Bays, western Kyushu, in order to clarify the precise fault-trace distribution and the sense of vertical displacement of the northern and southeastern zones of the Unzen Fault Group. In the northern part of Shimabara Bay at the immediate front of the known onshore northern fault zone, we have newly found several normal faults extending to the S80-85E direction and showing graben structures. The faults were traced for 8 km, but their eastern extensions were not ascertained because of widespread acoustic dispersion layers off Kumamoto City. In southern Shimabara Bay, we have ascertained that the Fukae Fault dies out just off Fukae, but the eastern extension of the longer and higher slip-rate Futsu Fault is not ascertained due to acoustic dispersion layers off Uto City. At the southeastern corner of the survey area off Otao, southwestern part of the Uto Peninsula, a north-side-down normal fault reaching the sea bottom was newly discovered. In the littoral zone of the northern Tachibana Bay, no major south-side-down active normal fault like the onshore Chijiwa Fault was found.

Keywords: Unzen fault group, active fault, sonic survey, Shimabara Bay, Tachibana Bay, boomer