

Identification of the source horizon of earthquake-jetted sand - 2003 Miyagi-oki Earthquake and Northern Miyagi Earthquake -

takahiko inoue[1]; Katsumi Kimura[2]; Yoshinori MIYACHI[3]; Tsuyoshi Haraguchi[4]; Susumu Tanabe[5]; Yoshio Inouchi[6]

[1] AIST, IGG; [2] GSJ,AIST; [3] IGG, AIST; [4] Geosci.,Osaka City Univ.; [5] GSJ, AIST; [6] CMES, Ehime Univ.

The origin of jetted sand caused by liquefaction due to two earthquakes in Miyagi Prefecture in 2003 was studied by grain size and sand fraction analysis. Core sediment samples were obtained by drilling and 'Geoslicer' in the Ushiami and Hamaichi areas of Higashi-Matsushima, Miyagi Prefecture, where were seriously affected by liquefaction. The core samples consisted of four sediment layers: 1) surface jetted sand, 2) the original surface soil, 3) artificial back-filled sand known locally as 'Yamazuna' and 4) ancient beach-sand, in descending order. Grain-size analysis showed that, grain-size parameters of jetted sand in the Ushiami area were similar to those of the uppermost part of the ancient beach sand layer. In the Hamaichi area, grain-size characteristics of the jetted sand were similar to both the 'Yamazuna' layer and the beach-sand layer, but sand fraction modal compositions of the jetted sand corresponded to those of the beach sands. These results indicate that the Higashi-Matsushima jetted sands originated from the ancient beach-sand layer, which had previously been considered to be resistant to liquefaction arising from earthquakes.