

Inland Liquefaction in Tochigi Prefecture Caused by the 2011 Tohoku Earthquake

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The inland liquefaction and the damages in the Tochigi prefecture by the 2011 Tohoku Earthquake were investigated by the field surveys. The typical phenomena of sand boiling, ground depressions, and ground tilting caused by the soil liquefaction were observed. Several characteristic factors among the inland liquefaction area were the locations of the river floodplain and swamp area, the surface unconsolidated river sand-gravel layers, very shallow groundwater level, and the recent foundation - improvement works within several ten years. Additional contributing factors were the maximum 6+ of the intensity and the longer strong-motion duration of 70 seconds of the earthquake wave. These factors induced the soil liquefaction even in the inland Tochigi prefectural area by the Tohoku Earthquake

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