Geological survey for liquefaction-fluidization phenomena: damage and survey by PD-CPT

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2011 off the Pacific coast of Tohoku Earthquake and the aftershock brought heavy damage in the various places in East Japan. At a public high school in Mihama ward, Chiba city, remarkable liquefaction - fluidization phenomena occurred in a part of the bicycle place. Sand spouted out the surface of the ground and the ground level sank partially 30 - 40cm height.

In the part that the level of the ground surface changed, we investigated portable dynamic cone penetration test every 1.5 - 2m densely horizontally.
As a result of investigation by portable dynamic cone penetration test, the situation of the subsidence of the ground surface and relations with geological structure became clear.

We can grasp the hardness of the layer in exact depth by portable dynamic cone penetration test, but it is only hardness. We cannot confirm a particle size and the sedimentation structure of the stratum by portable dynamic cone penetration test.
It becomes the high investigation into precision more by comparing geological survey with portable dynamic cone penetration test. Because stratum sample may expand and contract when we pull up stratum in geological survey, this is because it can correct depth by comparing it with the result of portable dynamic cone penetration test.

Keywords: Liquefaction-Fluidization, The 2011 off the Pacific coast of Tohoku Earthquake, Chiba city, Man-made Strata, Geological survey, Portable Dynamic Cone Penetration Test