Japan Geoscience Union Meeting 2013

(May 19-24 2013 at Makuhari, Chiba, Japan)

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HGM22-P01

Room:Convention Hall

Time:May 21 18:15-19:30

## New development of the wide soil penetrator GS-YH-13 intended to high recovery rate of excavated sample

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In general, we use peat sampler and soil penetrator, which are common excavation methods in geomorphological investigation because of low environmental impact. Upon collecting a sample minimal excavation, although this method is a very effective. But it was difficult to get wet or/and sandy samples because of simple structure of its sampler. In addition, its weight is piling up, such as connecting rods, had been struggling to move in wetlands. Although we have been developing and improving our soil sampler over the past 10 years. We retry to improve the new wide soil penetrator GS-YH-13 in three points as bellows; (1) increasing the recovery rate of the wet and sandy samples, especially in the distal end portion which is that there is no loss of sample, (2) targeting 1m as the length of the sample while maintaining the large diameter (30mm) of sampler, (3) reducing the weight and increasing the convenience using for wetlands.

Keywords: geomorphological investigation, wide soil penetrator, GS-YH-13, high recovery rate, excavated sample, development