



Fluvial stratigraphy and palaeo-environments of lower Han River, near Hanam: A Stratigraphic investigations form boring cores

Jong Yeon Kim(1,2), Ju Yong Kim(1), Dong Yun Yang(1), Geun Chang Oh(1), Sangheon Yi(1), Jeong Chan Kim(1), Wook Hyun Nahm(1), Jin Kwan Kim(1), Hyunsoo Yun(1)

(1) Quaternary Environment Research Team, KIGAM, Daejeon, Korea (2)Department of Geography Education, Seoul National University, Seoul 151-748, Korea(jkim@snu.ac.kr/82-10-3181-8748)

Valley floor sediments from the Pungsan land development area of Hanam, east of Seoul, provide evidence for environmental changes during Pleistocene and Holocene at lower Han River. Using 125 boring cores, stratigraphic sequences and sediment characteristics are revealed. In situ weathered basal surface found from 0-10m from present mean sea level. This weathered layer could be bedrock surface rather than weathered surface when it formed in the time of lower sea level. About 10m thick gravel with sand matrix layer covers the bedrock surface. This layer interpreted as channel bed sediment. The thickness of this gravel dominant layer increases northward (towards current river channel). Transition from bedrock to basal gravel layer could be related with sea level rising. Up to 5m thick sand layer overlays the gravel layer. The age estimation using OSL method suggested that this sand layer deposited about 60ka BP. The change from the gravel layer to sand layer is abrupt rather than gradual. This change could happen with channel shifting northward. The colour of the sand deposits is dark brown to brown when it overlays thick gravel layer (up to 10m), but greenish/bluish grey to grey when it covers weathered bedrock surface or thin (up to 2m) gravel deposits. Upper most part of deposits consists with clay and silt (up to 7m in thickness). Peat layers imbedded in this layer with various thickness. Physical characteristics of greenish/bluish grey silt and clay deposits are similar with marine sediments found from the coast of Yellow sea. It is too early to say the origin of these deposits but further chemical and biological analysis will provide more information on

the origin. The age of each layer will be measured with proper measurement methods, including ^{14}C and cosmogenic isotope analysis.