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## Geothermal slop and groundwater flow in hot springs in Busan, Korea

Cholwoo Lee (1), Chan-Hee Park (2), and Eui-Seob Park (3)

(1) KIGAM, Center for Deep Subsurface Research, Daejeon, Korea, Republic Of (cleanrain1116@gmail.com), (2) KIGAM, Center for Deep Subsurface Research, Daejeon, Korea, Republic Of (chanhee.park@kigam.re.kr), (3) KIGAM, Center for Deep Subsurface Research, Daejeon, Korea, Republic Of (espark@kigam.re.kr)

The geothermal gradient and groundwater flow were analyzed using well hot spring data drilled deep in Busan area. The hot springs used in the analysis are 44 boreholes, with an average excavation depth of about 561 m and a maximum excavation depth of about 1,102 m. The temperature of the hot spring water was at  $25.7 \sim 65.5$  [U+2103], and the mean temperature of hot spring water was about 36.7 [U+2103]. The average geothermal gradient of Busan area is about 22.75 [U+2103]/km except for Dongnae and Haeundae hot springs. The geothermal gradient in Dongnae and Haeundae hot springs is  $31 \sim 390$  [U+2103]/km. The reason for the very high-temperature gradient occurring in the Dongnae and Haeundae hot springs is that the hot spring water rises from the bottom to the surface and the hot spring water is supplied at a depth of about 620 m to 2,061 m in the Dongnae hot spring associated with the geological structure line indicating that the Dongnae fault may be the primary channel for the hot spring water to flow from the deep part to the surface.