

경상북도 청도지역 다로천 소유역에서  
산소동위원소( $^{18}\text{O}$ ) 추적자를 이용한 유출수문곡선 분리

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Hydrograph Separation Using the  $^{18}\text{O}$  Tracer  
in the Daro-stream drainage, Cheongdo Region,  
Kyeongsangbuk-do.

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**ABSTRACT**

This study is designed to separate out baseflow and event water from the hydrograph of the Daro-stream drainage basin in the Cheongdo region of Kyeongsangbuk-do. The baseflow recession period was assumed to begin when the summer stream stage falls beneath the height of the water table. It was taken to end with the first spring flood. Towards the end of this period, the isotopic composition of the stream water can be regarded as being in equilibrium with that of the groundwater. Using  $^{18}\text{O}$  as a tracer, two-component hydrograph separations were performed. The required data were obtained

by long term monitoring of the surface and groundwater levels, along with discharge rate of stream. The isotopic compositions of the rain, surface, and groundwaters were recorded. At the time of the first flood after a dry season, the crest of the hydrograph was found to be composed of 20% baseflow.

keyword: hydrograph, baseflow recession, two-component hydrograph