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A STUDY OF SEEPAGE THROUGH HOMOGENOUS EARTH DAMS WITH VERTICAL DRAIN

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Abstract

This research paper aims to study the effect of drain vertical on seepage characteristics (free water surface, seepage face length and seepage discharge) through earth dams based an pervious base. This investigation concerns to study the quantity of seepage through homogenous earth dam with the experimental method by sand box model and the using computer program SEEP/W (which is a sub-program of Geo-Studio). Also, the effect of position of filters on seepage characteristic was included, the influence of the conditions of the length

of the horizontal drain and the slope of the upstream on the drainage process. It was observed that there is a dependency between seepage flow, the length of the horizontal drain, the water head and the slope of the upstream slope and the best location of drain. Finally a comparative study of the experimental data with results obtained by numerical simulation performed with SEEP/W was carried out.

Keywords: Homogenous Earth Dams, Seepage Quantity, SEEP/W