

The effect of structural factors on alluvial thickness in the Southwest of Mashhad plain

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Abstract

Mashhad plain is affected by a series of active faults in the northern margin of the binalood and the kopehe-Dagh mountain ranges. The activity of these faults forms the morphology of the stepped bedrock of the plain. Besides, the faults activities in the Quaternary period are the main effective parameters in the aquifer thickness and depth of bedrock in Mashhad plain.

The investigation of data from drilling wells in Mashhad plain shows that the thickness of alluvial aquifer at very low intervals has been also changed abruptly under the influence of hidden faults in the plain. In the present study, due to the gathered data from exploration wells reaching the bedrock and geoelectric studies, iso-alluvial thickness curves from southwest parts of Mashhad plain (which are important in terms of discharge) have been provided. Also the location of hidden faults in the plain has been determined. The results of this research indicate that the main faults in the southern margin of Mashhad plain (especially Souran and S.chenaran faults) have a major effect in sudden changes in depth and the kind of bedrock, alluvial thickness and the texture of alluvial particles in Mashhad plain.

Keywords: *Mashhad plain, Cuttings, Aquifer thickness, Geoelectric researches*

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