

MODELLING HETEROGENEITIES IN POROUS MEDIA.

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A geoestatistical characterization of hydraulic conductivity (K) was performed at the aquifer of the Mojotoro Basin, Province of Salta (Argentina). The spatial variation of the hydraulic conductivity may be characterized by its distribution, which is not totally random because it shows some correlation structure through the semivariogram. Measurements of hydrological and geological properties have been made at scattered sampling points and the sampled data of the wells reveal that, in general, high K values are present. In this paper, the kriging algorithm was used for the interpolation and estimation of the hydraulic conductivity at the unsampled location. To simplify the problem, it may be assumed that the hydraulic conductivity is statistically stationary, free from drift. The analysis of the K field in transverse sections allows inferring about the type of litology that is present at any point of the aquifer. Kriging was applied satisfactorily to model the heterogeneities in porous formations with acceptable results. The geoestatistical methods are a useful tool to study areas with scarce sampling and irregularly distributed in space.