

## عنوان مقاله:

(Gypsum Dissolution Effects on the Performance of a Large Dam (TECHNICAL NOTE

## محل انتشار:

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## خلاصه مقاله:

Upper Gotvand dam is constructed on the Karun River located in the south west of Iran. In this paper, 2D and 3D models of the dam together with the foundation and abutments were constructed and several seepage analyses were carried out. Then the gypsum veins scattered throughout the foundation ground and also the seepage pattern were included in the models, hence the dissolution law of gypsum, was analyzed. It was disclosed that, the discharge fluxes obtained from 2D and 3D analyses are not similar and the discharge flux in 3D model is about 4 times the size of 2D model. Also, the 3D model localizes the phreatic surface some what higher than the 2D model does. This means that the 2D model estimates lower pore water pressure pattern in comparison with the 3D model. These may be attributed to the fact that with 2D model the lateral components of vectors of seepage velocity are ignored. In spite of the fact that the grout curtain is designed to be some 170 meters deep, however, complete dissolving of gypsum will severely increase the discharge flux through the foundation ground.

## کلمات کلیدی:

Gypsum, Earth Fill Dam, 3D Seepage Analysis, Permeability

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1416428>

