عنوان مقاله:

Conceptual Model of Darezar Copper Mine and Designing Observation and Dewatering Wells

محل انتشار:

دومین کنگره بین المللی زمین شناسی کاربردی (سال: 1394)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Mahdi Janparvar - *TOOSSAB Consulting Engineers, Department of Water Resources, Mashhad, Iran*

Mahmoud Alipour - *National Iranian Copper Industries, Sarcheshma Copper Mine, Kerman, Iran*

خلاصه مقاله:

Darrezar Copper mine is located in west of Kerman province, south of Sarcheshmeh Copper mine, central Iran. This study was accomplished to prepare the conceptual model of Darezar mine aquifer. The study area is located in Central Iran geological zone and Orumieh – Dokhtar volcanic belt. Due to small scale of the study area, the lithological variety across the study area is not wide and comprises of sedimentary formation and igneous rocks. Igneous rocks are dominant in the area. Major trend of faults and fractures in the study area is Northeast – Southwest. The fault systems could be classified in three classes as first, second and third categories, from which, the first prepared the ground for intrusion, the second caused many fractures and joints in adjacent rocks and substitution in deep intrusive masses and the third displaced both former fault systems. In Darezar intrusive, densities of joints are high and joint surfaces are completely oxidized. To unveil the subsurface characteristics in Darezar area, a number of 171 exploratory drillings were drilled. In Darezar area the dominant lithology in drillings are quartz diorite and diorite. To compare borehole data, boreholes logs were processed in Groundwater Modeling System environment by using Borehole module. To assess the potential of geological formations, a data collection of water resources in the study area was done. In order to estimate the expansion of aquifers, results of borehole drillings and specifically RQD index were used and cores were categorized in five classes as highly porous, porous, moderate porous, low porous and very low porous. The results imply that the aquifer in Darezar mine extends to a depth of about 300 meter. A number .of observation and dewatering wells was designed based on study aSSes Sment

کلمات کلیدی:

Copper Mine, Conceptual Model, Sedimentary Formation, Igneous Rock, Joint, Fault, ROD