

عنوان مقاله:

Predicting Clogging Potential of Aghajari Formation along Chamshir Water Conveyance Tunnel

محل انتشار:

دومین کنفرانس منطقه ای و یازدهمین کنفرانس تونل ایران (سال: 1394)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Clogging and blockage of cutter head and disc cutters is one of the major problems during tunnel excavation in clay bearing soils and rocks that can lead to delays in construction time and to conflicts regarding additional costs and cause reduction in performance of excavation process. This phenomenon affects all types of closed-face TBMs. The Chamshir water conveyance tunnel with a total length of about 7.4 km and boring diameter of 5.3 m which is located in South West of Zagros mountain will be excavated with a fully-mechanized method through Bakhtiary and Aghajari formations by a single shield machine (TBM model S-124) manufactured by Herrenknecht. In this paper, clogging potential of these rock units has been investigated based on the existing empirical and laboratory approaches to reach this purpose, and systematic sampling from different clay bearing rocks was carried out during field investigations. According to the results obtained, measured liquid limit for all of the samples was in the range of 35 - 40% that were classified as intermediate. The results indicated that the clayey soft rock units will be encountered through Chamshir water conveyance tunnel show low to medium tendency to 'sticky behavior'. Also most of the samples were categorized as little to medium clogging risks but can lead to critical condition by increasing water content. In addition, Cone penetration apparatus was used to predict adhering of samples to a steel tool surface and clogging potential. Results of adherence indicated that clayey soft rock unit samples have medium clogging potential

کلمات کلیدی:

Sticky, Clogging, TBM, Chamshir ~Tunnel

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