Possibility of using the western Iraqi desert Silica sand at drinking water treatment fitter

Arkan Dhari Jalal Majeed Mattar Ramal Abed Saleh Fayath

Abstract

This study was determined specified characteristics of Iraqi silica sand , to use it in the drinking water treatment rapid gravity filters. These properties includes grain size ,uniformity coefficient , grain shape , porosity , density , durability, chemical content and capability of solubility in the acid ..this study explained that the Iraqi silica sand has high degree at mechanical and chemical stabilities .The e filter column was operate for many cycles , the average results of raw water and treated water for variable values (turbidity , total suspended solids and total bacterial count) was taken . The study showed that possibility of use the Iraqi silica sand in the western Iraqi desert in the rapid gravity drinking water treatment plant filters . when the raw water has initial turbidity (5.24 NTU) ,the study and the experimental tests showed that the average removal efficiency of turbidity , T.S.S ,and T.B.C of (82.9%,82.8% and 79.5%) respectively . when the raw water has initial turbidity (9.58 NTU) ,the study and the experimental tests showed that the average removal efficiency of turbidity , T.S.S ,and T.B.C of (79.4%,78.7% and 74.1%) respectively . when the raw water has initial turbidity (28.35 NTU) ,the study and the experimental tests showed that the average removal efficiency of turbidity , T.S.S ,and T.B.C of (72.6%,72.7% and 60.9%) respectively