



## Study of Some Physical and Chemical Characteristic Properties of Ground Water in Sug al Juma'a area in Tripoli, Libya

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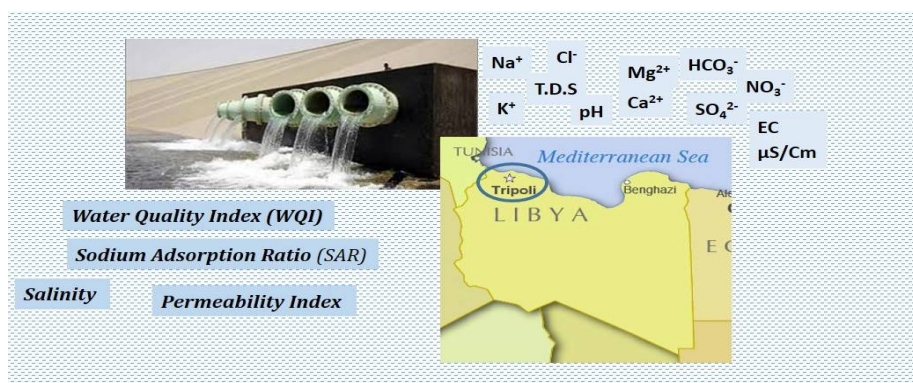
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### ABSTRACT

The physical and chemical properties of ground water from thirty wells in Sug al Juma'a area in Tripoli, Libya were analyzed using standard methods. Ground water samples were collected from three locations (Al-Shat Road (A), Sug al Juma'a Road (B) and Arada Road (C)). The physical and chemical parameters such as pH, Total Dissolved Solids (TDS), Total Hardness (TH), Electrical Conductivity (EC), Calcium ( $Ca^{2+}$ ), Magnesium ( $Mg^{2+}$ ), Sodium ( $Na^+$ ), Potassium ( $K^+$ ), Chloride ( $Cl^-$ ), Sulfate ( $SO_4^{2-}$ ), Bicarbonate ( $HCO_3^-$ ), Nitrate ( $NO_3^-$ ) were analyzed to study the present status of the ground water quality. The results were compared to the Libyan Standard No. 82 for Drinking Water and the World Health Organization (WHO). The understudy samples showed significantly higher values of TDS and EC than Libyan Standard and WHO. Permissible limits which may greatly influence the health conditions of the residents of this area. It is concluded from this study that the ground water of the area needs a substantial degree of purification treatment before using for drinking and domestic purposes.

### Graphical Abstract



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**Keywords:** Water quality, Ground water, Drinking water, Tripoli.