

## عنوان مقاله:

The physicochemical characteristics of well water samples in Lavasanat region, Iran

## محل انتشار:

مجله پیشرفت در تحقیقات بهداشت محیط, دوره 7, شماره 3 (سال: 1398)

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## نویسندگان:

Somayeh Amini - *Department of the Environment, Technical and Engineering Faculty, Islamic Azad University, North Tehran Branch, Tehran, Iran*

Maryam Rafati - *Department of the Environment, Technical and Engineering Faculty, Islamic Azad University, North Tehran Branch, Tehran, Iran*

Mojtaba Sayadi - *Head of Research and Efficiency Rural Water and Wastewater Company, Tehran, Iran*

## خلاصه مقاله:

The present study aimed to evaluate the quality of well water in Lavasanat region, Iran in order to achieve a comprehensive zoning map in a geographical information system (GIS) environment and improve the efficacy of water use during July-November 2016. To this end, samples were collected from the water wells in the villages of Kond Olya, Kond Sofla, Amin Abad, Anbaj, Zard Band, and Barg Jahan for chemical and physical analyses, including the measurement of hardness, acidity, electrical conductivity (EC), and turbidity, as well as the presence of anions (e.g., NO<sub>3</sub> and HCO<sub>3</sub>) and cations (Ca and Mg). The obtained results indicated that the EC of the well water samples in Kond Olya and concentration of magnesium in the samples collected from Kond Olya and Anbaj were higher than the standard level of 1053 (1800  $\mu$ s and 30 mg/l, respectively). Moreover, the turbidity of the samples collected from Kond Olya was slightly higher than the standard value during the humidity period. According to the results, the pH, total hardness, and concentrations of calcium and nitrate in all the studied water wells were below the standard level of 1053 during humid and dry periods. Therefore, it could be concluded that the water quality in Lavasanat (especially Kond Olya region) has been affected by human activities (e.g., release of household and agricultural sewage). It is strongly recommended that the water wells in Kond Olya village be purified in order to prevent the possible health damages in the residents of this area.

## کلمات کلیدی:

Physico-chemical quality, GIS, Nitrate, Total Dissolved Solids, Turbidity

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