

عنوان مقاله:

Assessment of Groundwater Quality for Irrigation Purposes in Near Coal Washing Plant, Zarand City

محل انتشار:

اولین کنگره ملی زغال سنگ (سال: 1391)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Seyed Morteza Moosavirad - *University of Applied Science and Technology, Kerman Coal Company, Kerman*

,Mohammad Reza Moghadam - *University of Applied Science and Technology, Kerman Coal Company, Kerman*

,Maysam Bagheri - *University of Applied Science and Technology, Kerman Coal Company, Kerman*

خلاصه مقاله:

In the present study, the chemical characteristics of groundwater with respect to Irrigation water quality in near coal washing plant, Zarand city, Kerman province, SE Iran, have been studied. The agricultural and urbanization activities have a lot of impact on the groundwater quality of the study area. Factor analysis has been applied to the chemical analysis data of 30 water samples collected from bore wells and 8 water samples from tailings pond to extract the principal factors corresponding to the sources of variation in the hydrochemistry. A perusal of the chemical data of the groundwater samples reveals the presence of two chemically differing hydrochemical facies within the study area (zone A and B). This can be demonstrated in bivariate TDS versus Ca^{2+} , Mg^{2+} , K^{+} , Na^{+} , HCO_3^{-} , SO_4^{2-} , Cl^{-} diagrams. Suitability of the groundwater for irrigation purposes has been evaluated based on its salinity, percent sodium, Sodium Absorption Ratio, Residual Sodium Carbonate, Kelley's Ratio and integrated effect of EC and SAR - based U.S salinity laboratory diagram. To understand the spatial distribution of unsuitable zones, ArcGIS was employed. Quality-wise the groundwater zone A and B can be utilised to irrigate coarse-textured soils of farmlands growing salt-tolerant crops.

کلمات کلیدی:

Groundwater quality Irrigation Coal washing plant Tailings pond

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