

ASSESSMENT OF WATER QUALITY INDEX FOR GROUND WATER OF INDUSTRIALIZED AREA OF SURAT CITY, GUJARAT, INDIA

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ABSTRACT

Assessment of water quality index for ground water of industrialized area of Surat city, Gujarat, India have been done by calculating Water quality Index value. The physicochemical analysis of 09 ground water samples namely Pandesara housing colony, Pandesara gam, Bhatpor, Bhestan, Udhna Gam., Limbayat, Damka, Sachin GIDC, Sachin gam were done by using APHA standard methods of analysis. The results of the analysis when compared with desirable limits of Indian standards for Drinking Water (IS: 10500.1993), in all the 09 sampling stations, most of the selected water quality parameters were observed above desirable limit. The WQI values of 09 ground water samples located nearer to industrialized area were found in the range of 179.82-1257.2 in winter season, 219.2-1290.11 in summer season, 167.42-1244.6 in post monsoon season. Based on average value of WQI, highest WQI was found in ground water sample of Udhna Gam (1263.97). Udhna Gam is very nearer to the Udhna GIDC (which are having 700 large scale and 6000 small scale industries of textile, chemical, pharmaceutical and metal industries) and the Udhna Khadi is 1.0-1.5 km away from the sampling point into which effluents of industries are discharged. The higher values of WQI was found (for all 09 ground water samples) in summer season may be due to the lowering of water table, while the values of WQI in winter and post monsoon season is comparatively lower due to recharging of bore wells in the rainy season. All 09 ground water samples of industrialized area were having high WQI values, from these results, it is concluded that none of the studied 09 sources can be used for drinking, domestic or for industrial purposes.

KEYWORDS: Water Quality Index

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