
Groundwater Quality in Vicinity of Umrer Coal Mines Area, Nagpur District, Maharashtra

A.M. Pophare* and A.L. Sadawarti

Department of Geology, RTM Nagpur University, Nagpur-440 001, India
**E-mail: apophare@gmail.com*

Abstract

The present study was undertaken to evaluate the groundwater quality of the villages in the vicinity of Umrer coal mines area, Nagpur district, Maharashtra. Total 15 groundwater samples were collected during pre and post-monsoon seasons of 2016 from various borewells and dugwells at different location. These samples were analysed to ascertain their suitability of groundwater for drinking and irrigation purposes. Various physico-chemical parameters were determined for the collected samples such as pH, EC, TH, TDS, *etc.* The acquired analytical results were compared with that of the specifications recommended by BIS and WHO. All the parameters are well within the specified values of the standards, except for Cl and NO₃⁻. The Piper's trilinear diagram show that groundwater samples for both pre and post-monsoon seasons indicate the dominance of alkaline earths (Ca²⁺+Mg²⁺) over the alkalies (Na⁺+K⁺). The weak acid (HCO₃⁻) exceeds strong acids (SO₄⁻+Cl). The study revealed that the samples are suitable for irrigation purpose. It is found that the coal mines do not have any adverse environmental impact on the quality of groundwater of the villages under study.

Keywords: Groundwater quality, Physico-chemical parameters, Hydrochemical facies, Umrer coal mines, Nagpur.