

Hydro chemical appraisal of ground water in R.S. Pura tehsil and adjoining areas of district Jammu (J&K)

■ PRAGYA KHANNA AND PRIYA KANWAR

Article Chronicle :

Received :
03.04.2014;

Accepted :
29.05.2014

Key Words :

Groundwater,
Physico-chemical
parameters, Water
quality standards

SUMMARY : The present study aims to assess the physico-chemical parameters (pH, Electrical conductivity (EC), carbonate (CO_3^{2-}), bicarbonate (HCO_3^-), chloride (Cl^-), sulphate (SO_4^{2-}), nitrate (NO_3^-), fluoride (F⁻), calcium (Ca^{2+}), magnesium (Mg^{2+}), sodium (Na^+), potassium (K^+), iron (Fe), total hardness (TH)) of the underground water in tehsil R.S. Pura, district of Jammu, J&K, India. The water samples were collected from tube wells and hand pumps in 30 chosen sites during the pre-monsoon period (Mar. 2013 to May 2013). The results were compared with standard values of drinking water prescribed by IS:10500, BIS and WHO. It was observed that certain parameters like electrical conductivity, bicarbonate, total hardness, calcium, sulphate, nitrate and iron as determined from the groundwater samples of tehsil R.S. Pura were above the limits set by IS:10500 and BIS at certain places. To analyse the data with statistical point of view, the statistical parameters like mean, range, standard deviation, co-efficient of variation, correlation co-efficient, kurtosis, skewness were systematically calculated for each parameter. Also, single factor Anova tables, piper diagram and schoeller graph were prepared to signify the major results. Also, an account has been prepared to analyze the factors like sum of anions (meq/l), sum of cations (meq/l), calculated TDS (mg/l), dissolved minerals (mg/l) like halite (NaCl), sylvite (KCl), carbonate (CaCO_3), dolomite ($\text{CaMg}(\text{CO}_3)_2$), anhydrite (CaSO_4), permanent hardness, temporary hardness and alkalinity.

HOW TO CITE THIS ARTICLE : Khanna, Pragya and Kanwar, Priya (2014). Hydro chemical appraisal of ground water in R.S. Pura tehsil and adjoining areas, district Jammu, J&K. *Asian J. Environ. Sci.*, **9**(1): 54-61.

Author for correspondence :

PRAGYA KHANNA
Government College for
Women, Parade Ground,
JAMMU (J&K) INDIA
Email: [pragyajmu2002@
yahoo.co.in](mailto:pragyajmu2002@yahoo.co.in)

See end of the article for
Coopted authors'