

IRON IN GROUND WATER IN INDIA AND ITS GEOCHEMISTRY

B. C. Mehta* and K. K. Srivastava**

**Formerly Central Ground Water Board, Faridabad*

***Central Ground Water Board, Kolkata*

E-mail: mehta26.bc@gmail.com

Abstract

Iron is an essential element for metabolism of both animals and plants. It is also an important component of human blood as haemoglobin. But high concentrations of dissolved iron in water causes staining and bad taste and promote the growth of iron-biofouling bacteria and iron encrustation around the screens of production wells decreasing the specific capacity. The concentration of iron in natural water is affected by redox potential, pH, dissolved oxygen and CO₂, and also lithology which differs between aquifers and varies locally due to placement of wells and pumping practices. High concentration of Iron in groundwater has been observed in more than 1.1 lakh habitations in the country. In India groundwater contaminated with high iron has been reported from Assam, Chattisgarh, Karnataka, Orissa and West Bengal. Localized pockets are observed in the states of Bihar, Uttar Pradesh, Punjab, Rajasthan, Maharashtra, Madhya Pradesh, Jharkhand, Tamil Nadu, Kerela and North eastern states.

Keywords: Ferrous iron, Ferric iron, Redox potential, pH and Biofouling.