Ground Water Quality in Mohendergarh Town, Haryana (India)

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ABSTRACT

Water is most important commodities and mainly most misused one and essential for the survival of life. The present research paper undertaken to account to bring an acute awareness among the people about the quality of ground water in Mohendergarh Town, Haryana. The water samples from specific locations for analysis. The experiment analyses its various Physico-Chemical parameters such as pH, Electrical conductivity , TDS, TH, TA, Ca++, Mg++, Cl-, SO4²-, Na+, K+, Co³²-, HCO³⁻, F⁻ content in ground water. Also results of Mohendergarh Town, Haryana India.

Key words: Ground water quality, Physico-Chemical parameters, Mohndergarh (Haryana).

INTRODUCTION

Water is one of the most indispensable resources and is the elixir of life. Water constitutes about 70% of the body weight of almost all living organism. Life is not possible on this planet without water. It exists in three states namely solid, liquid and gas. It acts as a media for both chemical and biochemical reactions and also as internal and external medium for several organisms. About 97.2% of water on earth is salty and only 2.8% is present as fresh water from which about 20% constitutes ground water. Ground water is highly valued because of certain properties not possessed by surfaces water. The rapid growth of urban areas, domestic and irrigation uses have further affected the ground water quality due to over exploitation of resources and improper waste disposal practices. Therefore it is essential for protection and management of the ground water quality. Consequently number of cases due to water pollution, water borne diseases has been seen which cause health hazards. It is matter of history that facial pollution of drinking water caused diseases which wiped out the entire population of the studied area. The present work is an attempt to measure the Ground water quality of Mohendergarh Town, Haryana.

EXPERIMENTAL

1. Water Sampling

A total of 20 ground water samples taken from ten locations of Mohendergarh town were collected in polythene bottles which were cleaned with acid water, followed by rinsing twice with distilled water. The water samples are chemically analyzed. The analysis of water was done using procedure of standard methods.

2. Study Area

Mohendergarh is one of the 21 district of haryana state in northern India. The district occupies an area of 1,859 km². The district has a population of 812,022 (2001 census). Narnual Town is the administrative headquarters of the district. Mohendergarh is one of the very few district in india where the name of the district and its town are different. As of 2011 it is the third least populous district of haryana (out of 21), after panchkula and Rewari. The district lies between north latitude 27° to 28° 26 and east longitude 75° 56' to 76° 51'. It is bounded on the north by Bhiwani and Rohtak districts, on the east by Rewari.
district and Alwar district of Rajasthan, on the South by Alwar, Jaipur and Sikar districts of Rajasthan and on the west by Sikar and Jhunjhunu of Rajasthan.

**MATERIALS AND METHODS METHODOLOGY**

The pH and EC were measured by using Eutech-cybernetics PH meter and EC scan meter. Total hardness, calcium, magnesium were measured by EDTA titration methods. Total alkalinity was determined by volumetrically by silver nitrate titrametric methods using potassium chromate as indicator. Sodium and Potassium were analyzed using Flame Photometer. Sulphate was determined nepthalometrically using ELICO-52 Nepthalometer. For bicarbonate, a titration with 0.01N sulphuric acid is used. Fluoride content in water was measured by ELICO-52 Spectrophotometer. The Physico-chemical analysis was carried out according to standards methods.

**RESULT AND DISCUSSION**

The ground water from the study area of Mohendergarh town has no colour, odour and turbidity. Taste of the water of the water sample in most of the locations showed brackish water. The result of the chemical analysis of ground water in the present study in Table-1. The data of chemical parameters showing consider variations which reflect the chemical composition. The pH of ground water ranges from 7.1-8.1. It indicates that they are in range of ground water quality parameter permissible limits i.e., 6.5-9.2. The EC of water samples shows wide variation in Mohendergarh Town. Ground water of studied block is found hard in maximum locations. The Ca²⁺ and TA content were beyond the accepted limits. Carbonate was either present or absent in the study block. The fluoride content in water is higher in maximum locations.
CONCLUSION
This study shows that ground water is the only source for the people in the Mohendergarh Town and the result of the chemical analyses of ground water indicates considerable variation. In maximum locations it is contaminated. It must be noted that a regular chemical analysis must be done to insure that the quality of water Mohendergarh Town is not further contaminated.

REFERENCES