



PHYSICO-CHEMICAL ANALYSIS OF WATER FROM YAWATESHWAR IN SATARA DISTRICT, MAHARASHTRA-INDIA

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ABSTRACT:

This paper presents the study of physico-chemical parameters of water from Yawateshwar in Satara district of Maharashtra. Physical and Chemical parameters such as water Temperature, Turbidity, Total Dissolved Solids, pH, Dissolved Oxygen, Free Carbon dioxide, Chloride, alkalinity and Total Hardness, were analyzed in October– December 2015. All parameters were within the permissible limits. The results indicate that the water is Non-polluted and can be used for Domestic and Agriculture purpose.

Key words: Yawateshwar, Physico- Chemical parameters.

INTRODUCTION:

Water is one of the most important compounds in the ecosystem. Better quality of water is described by its physical and chemical characteristics. But some correlation is possible among these parameters and the significant one would be useful to indicate quality of water. Due to increased human population, industrialization, Use of fertilizers in agriculture and man-made activity water get polluted. The natural aquatic resources are causing heavy and varied pollution in aquatic environment leading to water quality and depletion of aquatic biota. It is therefore necessary that the quality of drinking water should be checked at regular time interval because due to use of contaminated drinking water, human population suffers from a variety of water borne diseases. The physico-chemical parameters of water and the dependence of all life process of these factors make it desirable to take as a good environment. In present study involves the analysis of water quality in terms of physico-chemical parameters of Yawateshwar of Satara in Maharashtra. Yawateshwar is located in India at the longitude of 73.94 and latitude of 17.67. Satara is located in India at the longitude of 74.02 and latitude of 17.42. Water from well is basically used for domestic, purpose. In India still now several Researchers have done Study on physicochemical characteristic of standing and running water resources.

MATERIALS AND METHODS:

The water samples from Yawateshwar were collected from well in the morning hours, in

polythene bottle regularly for every month. The water samples were immediately brought into the laboratory for the analysis of various physico-chemical parameters like water, temperature and pH were recorded at the time of sample collection, by using thermometer and pocket Digital pH Meter. While other parameters Such as DO, TDS, Free CO₂ and Hardness, were estimated in the Laboratory By using standard Methods as prescribed By WHO, APHA, AWWA, Trivedy and Goel.

RESULTS AND DISCUSSION:-

The monthly variation in Physico-chemical parameters is presented in Table.

Table 1: Physical parameters of water from Yawateshwar, Satara district, Maharashtra

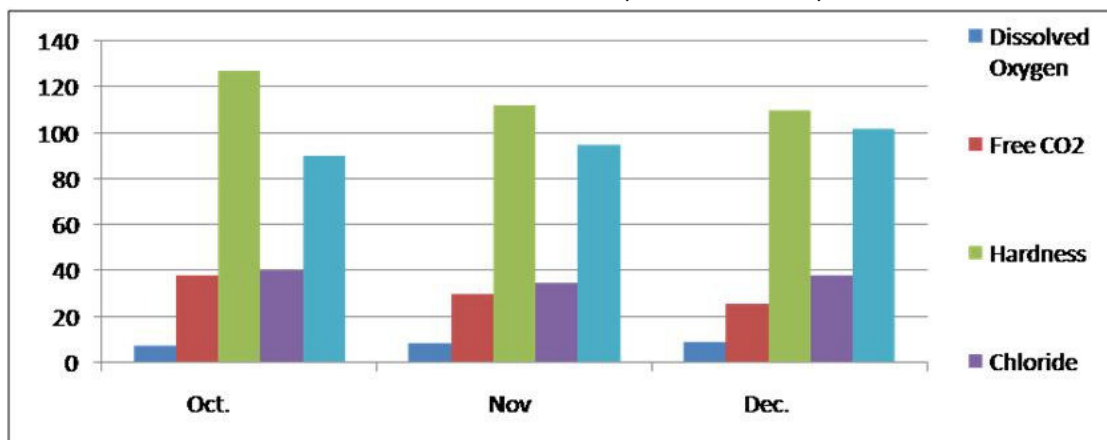
Months	Temperature OC	Turbidity NTU	TDS ppt	pH
Oct.	25.5	8.8	0.210	7.7
Nov	23.5	8.5	0.207	7.5
Dec.	23.0	8.2	0.203	7.4

Table 2: Chemical Parameters of water from Yawateshwar Satara District, Maharashtra.

Months	Dissolved Oxygen	Free Co ₂	Hardness	Chloride	Alkalinity
Oct.	7.5	38	127	40	90
Nov	8.7	30	112	35	95
Dec.	8.9	26	110	38	102

Value Expressed in mg/lit.

**Graphical Representation of Chemical
Parameters of water from Yawatashwar ,Satara District, Maharashtra.**



RESULT AND DISCUSSION:

The maximum (25.5°C) temperature was recorded in the Month of Oct and minimum (23°C) in the month of December. The turbidity of water observed nearly same from October to December. The total dissolved solids from 0.203 to 0.210 ppt. The pH values observed from 7.4 to 7.7. The maximum pH value was observed in October and minimum in December. The values of DO were observed from 7.5 to 8.9 mg/lit. The value of free CO₂ recorded from 26 to 38. The value of hardness from 110 to 127 mg/lit. The values of chlorides range from 35 to 40 mg/lit. Total alkalinity ranges from 90 mg/lit. to 102 mg/lit. The observed values of all parameters within permissible limit. This water is useful for Agriculture and drinking water.

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