Research Article

Analysis of Water by Using Physico-Chemical Parameters of Jamtala Region Water in Shendurjana-Ghat City, District –Amaravati, Maharashtra, India.

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ABSTRACT

This Paper Present to study of the Physico-chemical Parameters of Jamtala Region water in Shendurjana-ghat, District –Amravati, Maharashtra. India is one of the important country on the world map and ranks 3rd for its water reservoirs. In order to understand the water quality of Jamtala Region, Physicochemical parameters were studied and analysed for the period of one year i.e. September 2011 to June 2012. The concentration of elements is of great concern. Physical and Chemical Parameters Such as Water Temperature, Total Dissolved Solids, pH, Dissolved Oxygen, Free Carbon dioxide, and Total Hardness, Chlorides, Alkalinity, Phosphate and Nitrates. The results indicate that the region is Non-polluted and can be used for Domestic, Irrigation and Pisciculture. It has been found that the water is best for drinking purpose in winter and summer seasons.

Keywords: Physico-Chemical Parameters, Water characteristics, Drinking Water, Monthly variation.

INTRODUCTION

Water is one of the most Important Compound to the Ecosystem. Fresh water is finite resource, essential for agriculture, industry and even human existence, without fresh water of adequate quantity and quality, sustainable development will not be possible. Better Quality of water Described by its Physical, Chemical and Biological Characteristics. But some Correlation was Possible among these Parameters and the Significant One would be Useful to Indicate Quality of water. The contamination of soil, ground water and surface water by heavy metals or metalloids has become a major environmental and public health hazard and a major constraint to sustainable development in many countries of Asia and Pacific. Along with the depletion of water levels the pollution of water bodies is becoming a matter of serious concern and attention is needed. For developing sustainability both quality and quantity of water resources need to be monitored and preventive and mitigative measures need to be taken. Abnormal levels of fluoride are common in the fractured hard rock zone with pegmatite veins.

MATERIALS AND METHODS

The surface water samples from Jamtala region were collected during 10.30 am to 12.30 pm. Samples were collected at monthly interval in plastic cans of two litres capacity. The Water samples were immediately brought in to Laboratory for the Estimation of various Physico-chemical Parameters like Water Temperature Transparency and pH were recorded at the time of Sample Collection, by using Thermometer and Pocket Digital pH Meter. Transparency was measured with the help of Secchi Disc. Other Parameters Such as DO, TDS, Free CO2, Hardness, Chlorides, Fluoride were Estimated in the Laboratory By using Standard Methods as Prescribed By APHA, AWWA, Trivedy and Goel, Kodarkar.

Table 1: Physicochemical parameters analysis of surface water Jamtala region From Sept. 2011 to June. 2012.

Parameter	Sept.	Octo.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June
Water Temp.	28.72	27.87	26.23	26.45	23.12	21.25	22.42	27.87	21.09	22.27
pH	7.32	7.78	7.81	7.51	7.79	7.61	7.39	8.3	7.36	8.1
Transparency cm	6.3	8.5	58.65	60.55	57.32	84.0	77.5	67.25	15	13.5
Dissolved oxygen	7.44	7.43	7.57	7.28	7.58	7.41	7.28	8.48	8.18	7.61
Total Hard	192.57	155.09	101.03	84.12	62.32	66.33	57.77	91.16	97.15	103.59
Free CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chlorides mg/lit	2.35 ± 0.38	2.78 ± 0.68	4.0 ± 0.74	2.17 ± 0.68	2.38 ± 0.6	2.16 ± 0.15	2.38 ± 0.11	2.34 ± 0.31	1.89 ± 0.27	4.3 ± 0.71
Fluoride mg/lit	0.37 ± 0.10	0.56 ± 0.17	0.66 ± 0.12	0.62 ± 0.05	0.53 ± 0.12	0.44 ± 0.15	0.43 ± 0.07	0.55 ± 0.04	0.49 ± 0.015	0.33 ± 0.021

CONCLUSION

The result revealed that there was significant seasonal variation in some physicochemical parameters and most of the parameters were in the normal range and indicates better quality of water. Quality of ground water under study is nearly fit for drinking purpose, but it is recommended that ground water analysis should be carried out from time to time to monitor the rate and kind of contamination.

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