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WATER SAMPLE ANALYSIS OF AOIJ BANDHARA NEAR TAKALI, SOLAPUR

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Abstract:

Now a day not only water pollution is standing as a larger problem for healthy human being but also to in view of lower agricultural yield too. It will also proceed for protection of aquatic life and ecosystem. Present study is associated with the analysis of (Aoujbandhara) water sample. Sample was analyzed in order to achieve to information regarding to impact of climate. pH is a very important term used to express the intensity of acid or alkali condition of solution. pH scale ranges from 0 to 7 as neutral, below 7 being acidic and above 7 as alkaline. The values of pH, Conductance, Total Dissolved Solids, Hardness and Chlorides are recorded at regular The recorded values are compared with international Standards .

KEY WORD:

Water Sample Analysis , healthy human , lower agricultural .

INTRODUCTION:

Solapur is an antiquated chronicled spot going back to 90 BC. Solapur is one of the imperative town put in Maharashtra state. It is all around connected by rail & street with different urban areas, and is situated nearly 400 km. SE of Mumbai .SolapurMunicipal Corp. is getting water from takali ,Hipparga tank. Hipparga Tank is having rain water while water getting from Takali is put away at Aouj and lifted at Takali through jackwel and supplys to solapur city with physico concoction methodology made at Soregaon. Inially water gathered at Aouj is from Ujjani Dam. In any case from Ujjani to Aouj water prompts more dirtied and contaminated in light of the fact that it goes through number sugar industrial and synthetic expansion happens.

MATERIALS AND METHODOLOGY:

The Aoujbandhara water sample selected for physicochemical analysis is belong to Agricultural sector leading to water pollution, consequently Drinking purposes and harmful to health of Human being as well. pH of these water samples are recorded with the help of Instrument pH-Meter. Conductance is recorded with the help of Conductometer and other parameters like Total Dissolved Solids, Hardness and Chlorides are calculated with the help of titration methods.

OBSERVATION TABLE:

Month/ Parameter	Conductance (mmoh/cm)	PH	TDS (mg/L)	Hardness (mg/L)	Chlorides (mg/L)
September 2010	0.518	7.48	720	170	70
October 2010	0.520	7.46	785	170	70
November 2010	0.515	7.45	770	177	80
December 2010	0.530	7.44	750	176	70
January 2011	0.520	7.46	730	177	75
February 2011	0.510	7.45	710	177	80
March 2011	0.515	7.44	720	170	85
April 2011	0.520	7.77	710	177	90
May 2011	0.510	7.76	720	170	80
June 2011	0.515	7.76	705	170	50
July 2011	0.520	7.77	720	180	55
August 2011	0.515	7.76	735	170	57

RESULTS AND DISCUSSION:**pH:**

The average pH of winter is found 7.45 in winter while in summer found 7.75. This shows that pH of this water sample is increasing in summer. High pH is found in summer season because of maximum sugar factory are running in this season and more contamination occurs. In all the season the water shows alkaline nature. IS-10500 suggests the maximum limit varying from 6.5 to 8.5 for drinking purpose. pH also affects the taste, corrosivity. Lower pH values increase the corrosion action of water toward concrete. Above pH 7 the effect is negligible. In winter the noted higher pH value may be due to the photosynthesis, as well as growth of microorganism also. While the higher pH value during summer may be due to an increase in temp, which increases microbial activity causing excessive production of CO₂. Higher temp also increases the solubility of CO₂.

CONDUCTIVITY:

Electrical Conductivity sensors are used to measure the ability of water to carry an electrical current. Absolutely pure water is a poor conductor of electricity. Water shows significant conductivity when dissolved salts are present. Over most ranges, the amount of conductivity is directly proportional to the amount of salts dissolved in the water.

High Conductance of water is due to presence of electrolytes and dissolved salts. Conductivity is a reciprocal of the resistance. Electrical conductivity of water is directly proportional to its dissolved minerals matter contents. Since electrical conductivity varies directly with the temp of the sample. In the present work it was observed that the high value i.e 0.530 mmoh/cm was in the month of December. As per UPSH standard the permissible limit of conductance is 0.300 mmoh/cm.

Total Dissolved Solid (TDS):

Solid content in water constitute the total dissolved solids and suspended solids. Higher value of TDS indicates dissolution of large number of salt in water, in the month of Oct. high TDS noted, while in winter and rainy less TDS is noted respectively, According to Gonzatives&Josi, the maximum concentration of TDS in rainy may be due to starting decay vegetables. The TDS ranging from 725 ppm to

785 ppm in rainy season, while 705 ppm to 735 ppm in summer season.

Hardness:

Temporary hardness resulted from the carbonates, bicarbonate salt of the cations, while permanent is the non carbonate hardness caused mainly due to chlorides of the metal noted hardness in summer is ranging from 170 ppm to 180 ppm, while 170 ppm to 177 ppm in winter. Klein Sawyer and sinha considered the soft water having less than 75 ppm hardness, while from 75 ppm to 150 ppm as a moderately hard water and from 150 ppm to 300 ppm as a hard water and then a very hard water ranging from 300 ppm onward, international standard suggest the range up to 300 ppm. Our observation the water is not potable for drinking.

Chloride:

The quantity of chlorides is recorded in rainy season ranging from 57 mg/L to 80 in summer ranging from 70mg/L to 90 mg/L respectively. The increasing order of chloride is found from winter season Higher concentration of chloride may be due to the contamination by factory situated at the bank of river, and sewage of industrial effluents.. Chlorides in drinking water are generally not harmful to human being in limited extent. High concentration however may affect some persons who already suffer from disease of heart or kidneys. Water containing excess amount of chloride exerts a significant effect on the rate of conversion. Chlorides in drinking water is relatively harmful, if present in amount below 250 mg/L in waste water.

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