

## Determination of Total Dissolve Solid (TDS) and Turbidity of Seoni District Pond Water



### Chemistry

**KEYWORDS :** Dalsagar pond, Babaria pond, Budhwari bazaar pond and TDS and Turbidity.

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### ABSTRACT

*Present paper investigate the total dissolve solid & turbidity of water of Dalsagar pond, Babaria pond, Sanjay Sarover bandh, Bhimgad and many ponds present in Seoni dist. with special attention to domestic utility. The chemical quality of ponds water in Seoni dist. was studies based on the analyses of 30 water samples. The parameter analyses were pH, conductivity, turbidity, nitrate, iron and fluoride. The TDS amount of Dalsagar pond is very high of other ponds. Physiological and biological monitoring of storage water of various pond situated seoni dist. was carried out analysis of the samples was made employing standard method for examination of water. High level of turbidity is seen in Budhwari bazaar pond water and math mandir pond water because local citizen dispose all domestic west material and cannal best water. More over stored water quality of almost all the selected ponds wash found sticfactorial. The result were compared their standard prescribed WHO, ICMR, BIS and EPA.*

### INTRODUCTION

It is very essential and important to test the water before it is used for drinking, domestic, agricultural or industrial purpose. Water must be tested with different physic chemical parameters. Selection of parameters for testing of water is solely depends upon for what purpose we going to use that water and what extent we need its quality and purity. Water does content different types of floating, dissolved suspended and microbiological as well as bacteriological impurities.

Some physical test should be performed for testing of this physical appearance such as temperature, color, odour, pH, turbidity, TDS etc. while chemical test should be perform form its BOD, COD dissolved oxygen, alkalinity, hardness and other characters. For obtaining more and more quality and purity water, it should be tested for its trace metal heavy metal contents and organic i.e. pesticide residue. It is obvious that drinking water should pass these entire tests and it should contents required amount of mineral level. Only in the developed countries all these criteria's are strictly monitored. Due to very low concentration of heavy metal and organic pesticide impurities present in water it need highly sophisticated analytical instrument and well trained manpower. Following different physical chemical parameters are tested regularly for monitoring quality of water.

Highly impure water has various effects on human being get affected/infected due to presence of different bacteria and heavy metals present in water. It may affect the different body organ and physiological disorder. Hard water is not suitable for domestic use such as washing, bathing cooking as well as other purpose. Hard water is also not suitable for industrial and agricultural use. It damages the delicate machineries and affects the quality, stability and glossiness of the final product.

### MATERIAL AND METHODS

Water sample where collected monthly form different sample station of the year Oct. 2014, Jan. 2015 and March 2015 in 1000 ml polythene bottles Dalsagar pond (lake) is attached to the seoni city in M.P. The water available to public for his personal requirement is not absolutely pure. Many cause the physiochemical composition in the water and finally become insoluble for human consumption.

### EXPERIMENTAL SECTION

Color of pond water is used to describe the condition of west within the treatment and disposal process. Fresh west water usely fresh a brownish gray tint as they organic material is broken down and the oxygen is depleted the color changes to black.

Black west water is normally anaerobic color intensity increase with an increase in pH for this region reading pH along with color about to be done.

**Apparatus:-** Levi bond color comparator and color disks.

- Beaker 100 ml
- Funnel
- Whatmann No. 1 filter paper

**Procedure:-** 1. Filter sample through whatmann filter No.1

2. Fill up 1 quanete of comparator disk with sample other 1 with distilled water.
3. Place it in its comparator box round the disk and compare it with standard and note the reading.

All pond water color and odour is expectable so this water issued for domestic purpose.

Conductivity, pH, Hardness, alkalinity and acidity of all water sample of the describe pond is find out by conductivity meter, pH meter complexometric titration and acid base titration method are used the result of above experiment is given by tabular form analytic result of the following parameter in various samples of water obtained from different sample station of dalsagar pond (lake) near seoni city given in table-

**Table : Name of Pond:- Dalsagar pond**

S.No.	Parameter	Technique Used	WHO Standard	Indian Standard	Find Value
1.	Color	Visible	-	5 Hazen unit	Acceptable
2.	Odour	Physiological sense	Acceptable	Acceptable	Acceptable
3.	Acidity	Acid-Base titration	-	-	none
4.	Electrical Conductance	Conductivity meter/ Water analysis kit	-	-	2800us/cm
5.	Total hardness Mg Ca	complexometric titration	200 ppm	300ppm	600 ppm
6.	pH	pH meter	6.5-9.5	6.5-9.5	11.6

7.	TDS	Presence all Dissolved gases (Co.)	-	-	Acceptable
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7.	TDS	Presence all Dissolved gases (Co.)	-	-	Acceptable
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**Name of Pond:-** Budhwari Bazar pond

S.No.	Parameter	Technique Used	WHO Standard	Indian Standard	Find Value
1.	Color	Visible	-	5 Hazen unit	None
2.	Odour	Physiological sense	Acceptable	Acceptable	Brown-black
3.	Acidity	Acid-Base titration	-	-	none
4.	Electrical Conductance	Conductivity meter/ Water analysis kit	-	-	2500us/cm
5.	Total hardness Mg Ca	complexometric titration	200 ppm	300ppm	1200 ppm
6.	pH	pH meter	6.5-9.5	6.5-9.5	9.8
7.	TDS	Presence all Dissolved salts	-	-	None Acceptable

**Name of Pond:-** Near Math Mandire pond

S.No.	Parameter	Technique Used	WHO Standard	Indian Standard	Find Value
1.	Color	Visible	-	5 Hazen unit	None
2.	Odour	Physiological sense	Acceptable	Acceptable	Note Acceptable
3.	Acidity	Acid-Base titration	-	-	none
4.	Electrical Conductance	Conductivity meter/ Water analysis kit	-	-	2600us/cm
5.	Total hardness Mg Ca	complexometric titration	200 ppm	300ppm	1600 ppm
6.	pH	pH meter	6.5-9.5	6.5-9.5	6.6
7.	TDS	Presence all Dissolved gases (Co.)	-	-	-

**Name of Pond:-** Babaria pond

S.No.	Parameter	Technique Used	WHO Standard	Indian Standard	Find Value
1.	Color	Visible	-	5 Hazen unit	Acceptable
2.	Odour	Physiological sense	Acceptable	Acceptable	Acceptable
3.	Acidity	Acid-Base titration	-	-	none
4.	Electrical Conductance	Conductivity meter/ Water analysis kit	-	-	2300us/cm
5.	Total hardness Mg Ca	complexometric titration	200 ppm	300ppm	1100 ppm
6.	pH	pH meter	6.5-9.5	6.5-9.5	12.6

### Result Discussion

Analytical data of Dalsagar lake water given in table No.1 result is showed clear that this water is highly turbid grey colour and bad odour.

Authors where collected water sample and analyzed for physico-chemical parameters by adopting the standard method for examination for water and waste water. The analyses sample attained high values complaint the drinking water. The pH ranged of formed minimum of 6.6 to maximum of 8.4 chlorides from 132.5-820.4 mg/l. Hardness ranged from 74-281mg/l sulphates 0.192-5.12mg/l Nitrates 0.52-1.012. The minimum pH value of 6.3mg/l was found during winter session and maximum of 8.93mg/l in summer. The pH shows general the clean from up steam to down steam Co<sub>2</sub> was found to maximum in summer reaching up to 55.44 mg/l during rainy session. From the data collected it can be concluded that the inverse relationship which is known to exist between pH & Co<sub>2</sub> and Co<sub>2</sub> is known not existing in the present investigation.

Authors was studied pond water of Budhwari bazaar pond water. Quality of this water for various physicochemical parameters. Seasonally without and after addition of waste material of decay and death vegetarian slurry in different properties from the study it is clear that these parameter increase with addition of waste savage water and other vegetarian waste material. Organic waste where observed at pH 5.5 about study was carried out investigation the different organic pollutant where present in the budhwari pond water. Pond of railway station where selected maglipeth and railway station area where collected and subjected to analysis. The value of different parameter where compared with the standard value given by EPA (Enviromental Pollution Agency) and M.P.P.C.B. ( MP Pollution Control Board) Bhopal.

Author have been work out the physicochemical characteristics of the babaria pond water be studies various parameter like pH, Conductivity, Total dissolve solids, Hardness, Total alkalinity, chloride, Nitrate and Sulphate. The results reveled that the value of TDS, Conductivity and sulphate where found to cross the standard limits in the water samples.

We have analyzed water sample from math total for their physicochemical characteristics analysis of sample for pH, Color, Odour, Hardness, Chloride, Alkalinity, TDS etc. On comparing the result against drinking water quality standards laid by Indian council of medical research and WHO it is found that some of the water samples are known potable for human being due to high concentration of one or the other parameter.

Those attempted has been made to find the quality of pond water around seoni city suitable for drinking purpose it not.

Over study show that in monthly changes in physical and chemical parameter turbidity, TDS, pH and Total Hardness, Chloride, Alkalinity, Sulphate and Nitrates where analyzed for a periods 6 months. All parameter where cross the permissible limit the results indicate that all pond have certain pollutant and crevasse water and can be only used for domestic and irrigation.

There are several reports on standing water body water quality assessment using physico-chemical parameters (Hosmani et. al., 1980, Giriappanavar et. al. 2013).

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