

Water Audit Report-2022



Prepared by:

Sri Jyoti Prasad Phukon (Advisor)

Dr. Paranan Konwar (Advisor)

Ms. Mridusmita Patowary (Convenor)

Dr. Bhenila Bailung (Member)

Ms. Kabyasri Hazarika (Member)

Sonari College
Sonari, Charaideo-785690 (Assam)

Introduction:

Water is a precious natural resource with fixed quantum of availability. With increasing population, the availability of water is decreasing. The fresh water demand is rising day-by-day with increasing living standards of people, urbanization, industrialization, etc. Along with rising demand, the discharge from increasing population, industrialization, etc. increases which is reducing the available ample quality water sources. Hence, Honorable Prime Minister Narendra Modi has declared the national mission on water conservation 'Jal Shakti Abhiyan' which main objective is to conserve every drop of water and suggesting in all sectors of water to conserve water use. Water audit can help in identifying the means of reducing, reusing and recycling of water. For an institute, water audit can be a highly effective tool to improve any inefficiencies in water consumption and use. The amount of fresh water on earth which is readily usable by human is less than 1 percent. Water conservation is necessary in order to both rehabilitate the nation rapidly degrading ecosystem and prepare for the impending emergency of shortage of even drinking and residential water. Water audit helps in reducing water losses, hence enhances water conservation practices.

Objectives of Water Audit:

Preparing a baseline report on water conservation methods to reduce consumption, enhance quality and promote sustainable practices is the main goal of water audit. The specific objectives are:

1. To monitor the water consumption pattern and conservation in the college campus.
2. To evaluate the amount of water usage, waste water generation, and how much of each has been reduced within the college campus.

Water supply units in the college campus:

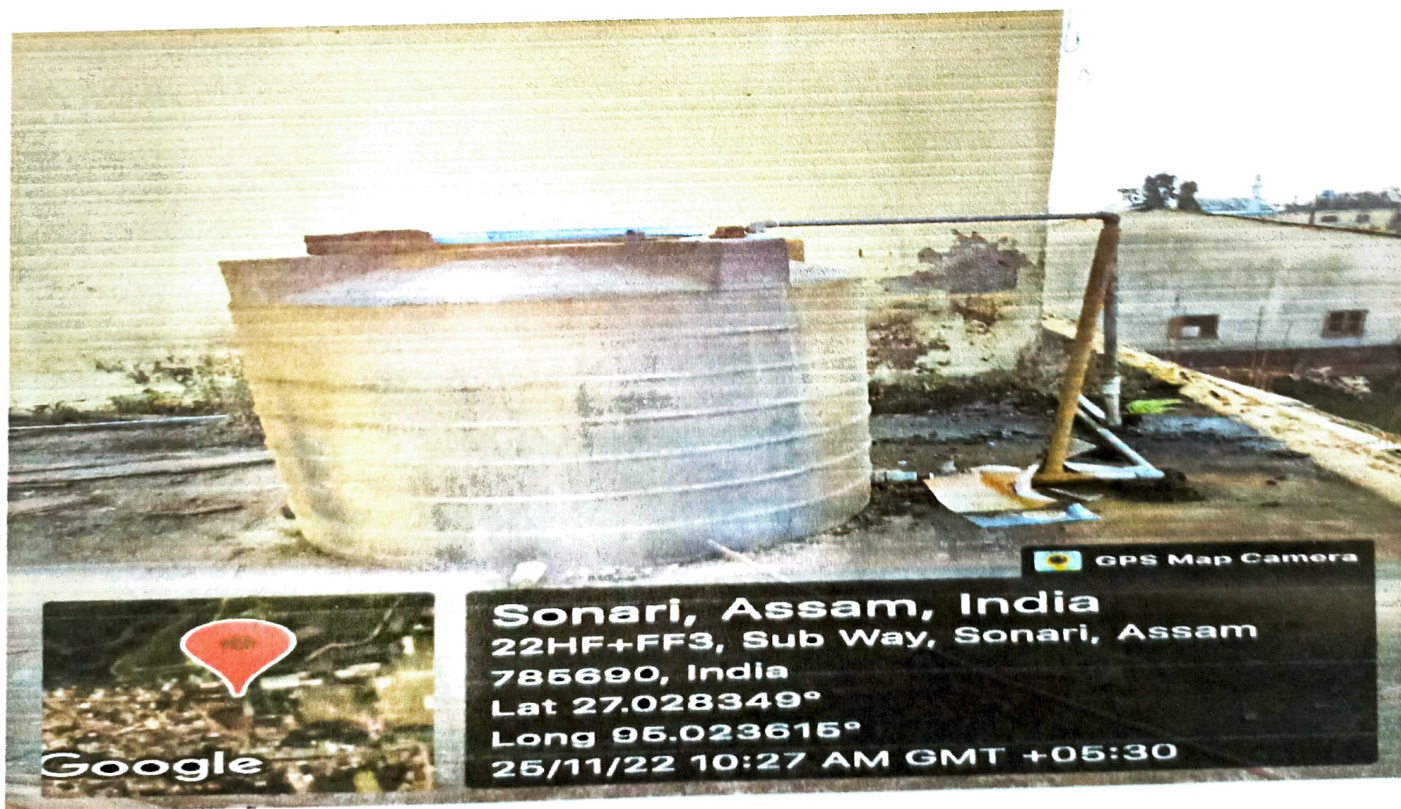
Water is the key driver for sustaining life on earth. The paucity of water and its security are growing concerns as a result of recent events in India and elsewhere in the world. Water management is therefore an essential element in sustainable development and has been incorporated into the sustainable development goals.

From the data collected for water audit, library, laboratory, principal's office, staff room, boys and girls common room, bathroom, garden and boys and girls hostels are the main sources of water uses in the college campus. The source of water supply in the college campus is ground water. There are two borewells which is digged 200 meters in the ground. Water in the college campus is stored at two overhead tanks of 500 litres and 1000 litres. Library of the college have a

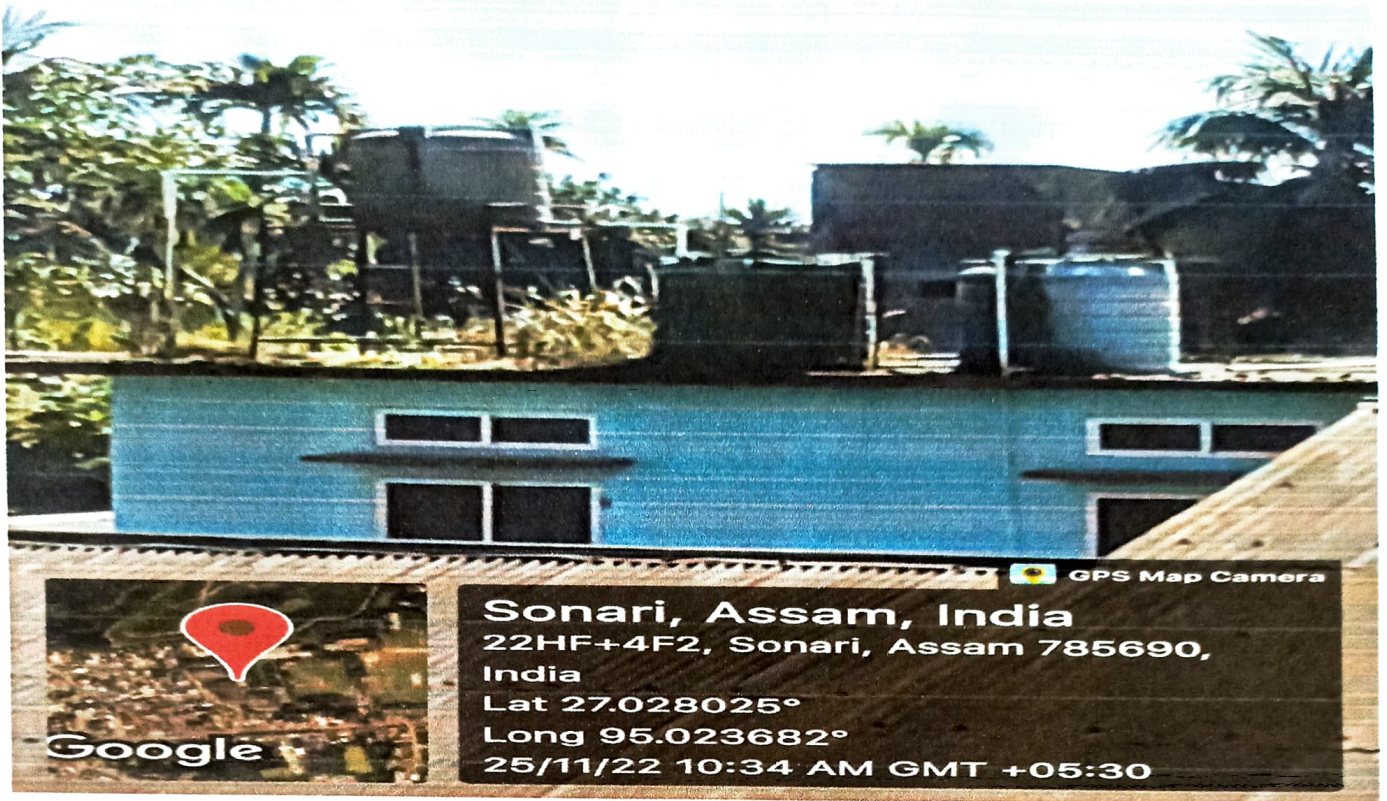
tank with 5000 litres capacity. Storage of water in the girl's hostel is stored at three overhead tanks with two 5000 litres and one 10,000 litres.

Table 1: Storage of Water in the College Campus

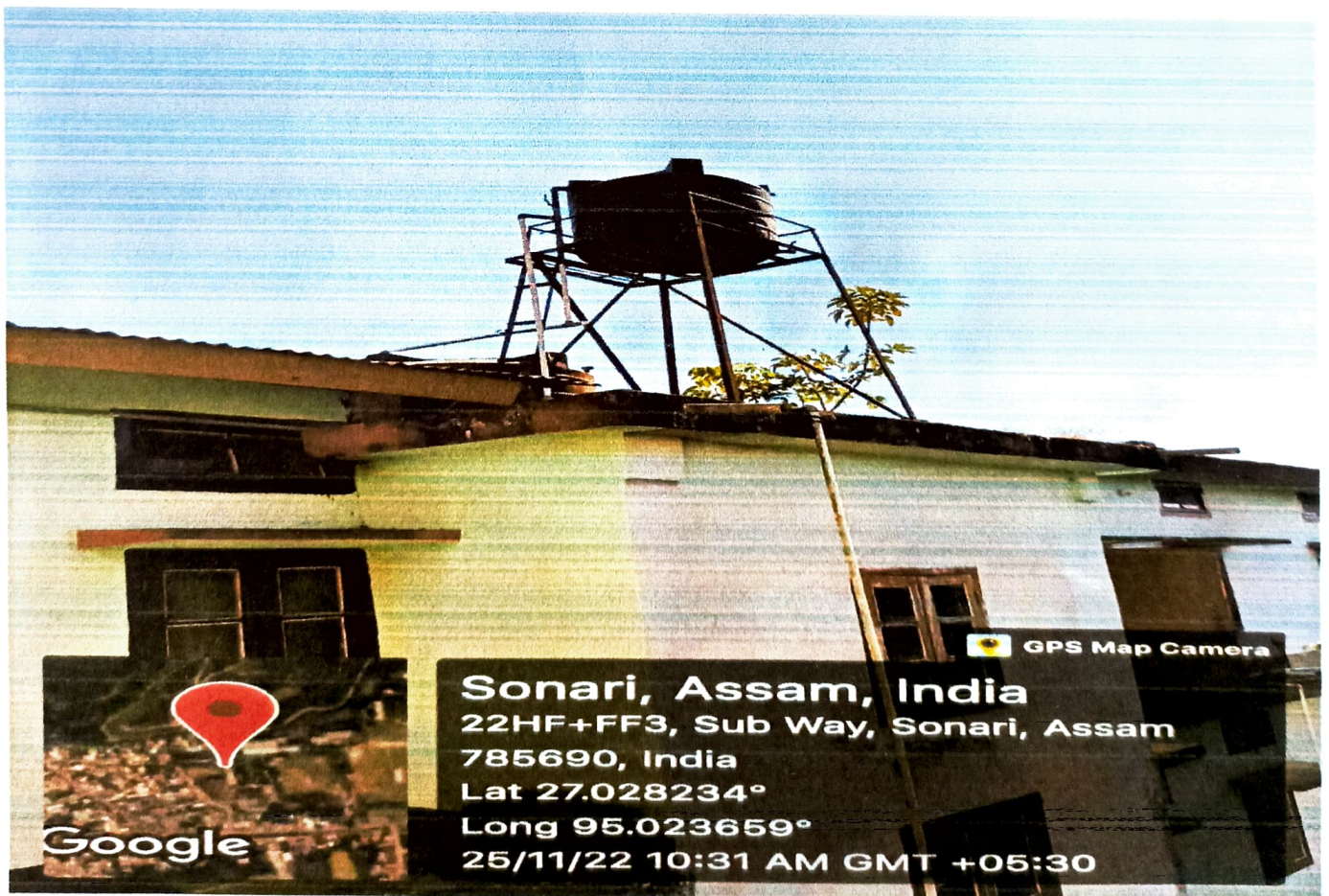
Categories	Science Block	Girl's Hostel	Women's Hostel	Boy's Hostel	Canteen	Library
No. of Tanks	2	03	01	03	01	01
Tank Capacity (in liters)	5000 1000	5000 5000 10000	2000	1000 1000 500	500	5000
Duration of Filling of tanks (in hours)	1:30	1:30	1:00	1:00	1:00	1:30
No. of times tank is filled	01	02	02	01	01	01



Science Block Terrace Water Tank



Boy's Hostel Terrace Water Tank



Science Block Terrace Water Tank

The college premises have 117 numbers of taps in the college campus. The details are presented in the table below.

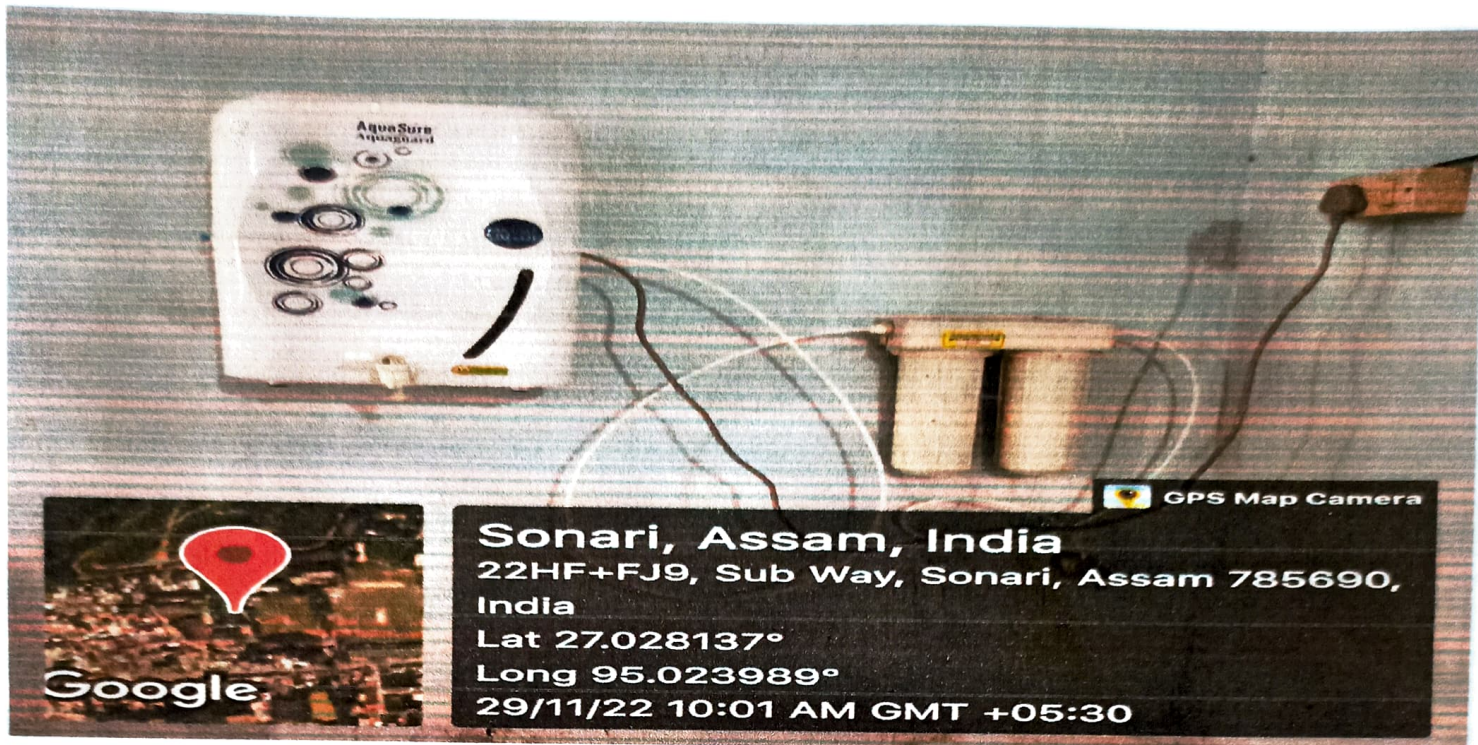
Table 2: Campus Taps and Locations for Water Use

Location of Taps		No. of Taps
Academic Block	Teacher's Common Room	Male Washroom-02
		Female Washroom-02
	Girl's Common Room	05
	Boy's Wash Room	01
	Physics Department	01
	Chemistry Laboratory	05
	Principal Office	02
	Conference Room	01
Others	02	
KKHSOU Block		01
Science Block	Chemistry Department	03
	IQAC	02
	Botany Department	03
	Mathematics Department	01
	Zoology Department	08
	Physics Laboratory	01
	Others	02
Girl's Hostel	Dining Hall	03
	Kitchen	02
	Bathroom (Ground Floor)	16
	Bathroom (First Floor)	16
	Extra Taps	05
	Warden's Room	06
Women's Hostel		12
Boy's Hostel		08
Canteen		04
Library		11
Total		121

Aqua guard and aqua plant facilities are available in the college premises.

Table 3: Purifiers/Filters in the College Campus

Location	No. of Purifiers/Filters
Girl's Common Room	01
Teacher's Common Room	01
Physics Department	01
Near Vice-Principal's Office	01
Girl's Hostel	02
Boys Hostel	01



Sonari, Assam, India
22HF+FJ9, Sub Way, Sonari, Assam 785690,
India
Lat 27.028137°
Long 95.023989°
29/11/22 10:01 AM GMT +05:30

Teachers Common Room Aqua Filter



Sonari, Assam, India
22HF+FJ9, Sub Way, Sonari, Assam 785690,
India
Lat 27.028149°
Long 95.024115°
29/11/22 02:04 PM GMT +05:30

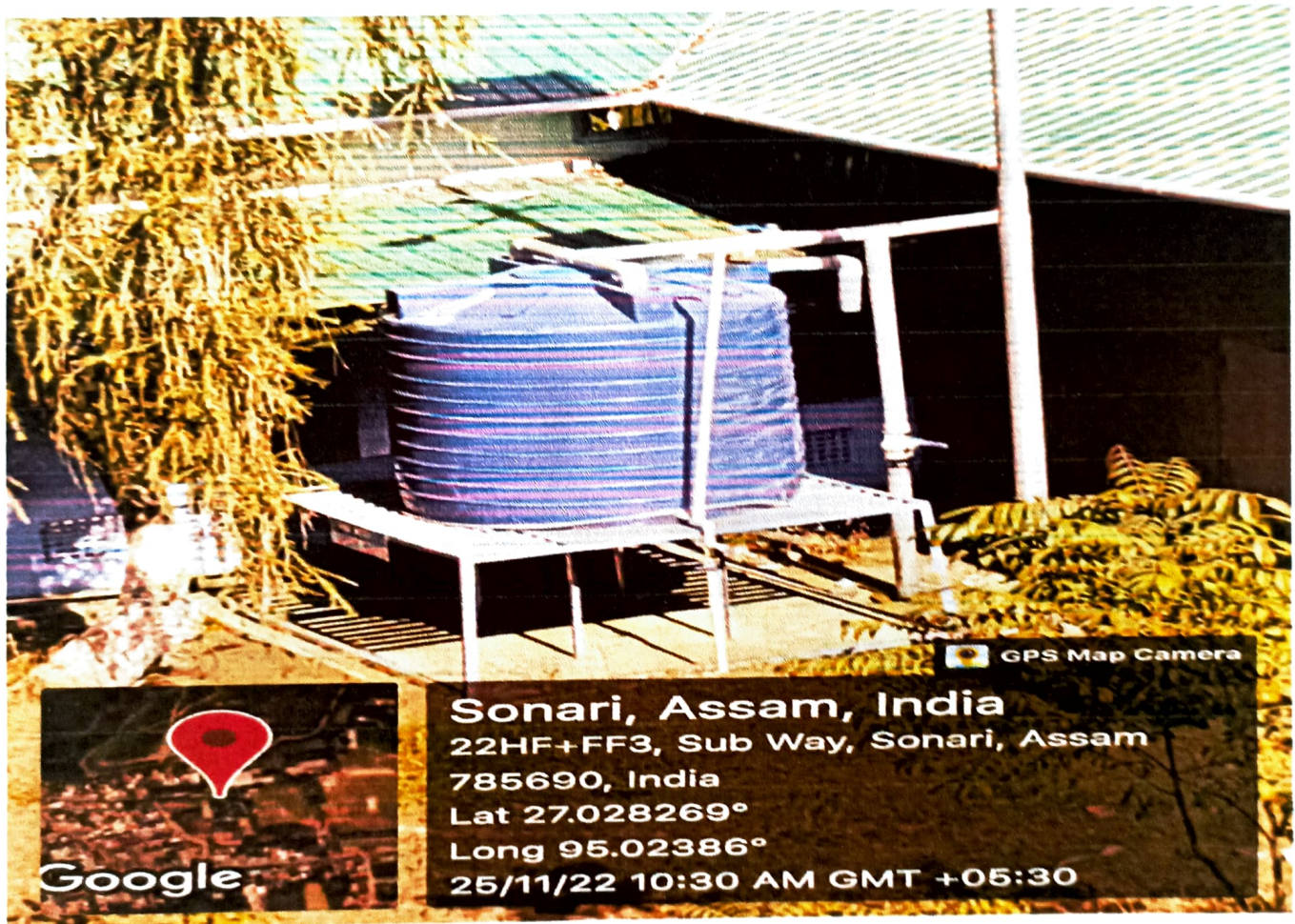
RO Water Plant for Students in the College Campus

Quality of Drinking Water in the Campus:

For our health and well-being, the quality of water is very important. To maintain reliable and safe water sources, monitoring the quality of water is very essential. Water testing in the college campus is done regularly to maintain reliable and safe drinking water.

Sustainable Water Practices in the Campus:

The practice of roof top rain water harvesting method is done in the campus. Water is preserved in a tank with a capacity of 5000litres.



Water Harvesting in the College Campus

Suggestions for Water Conservation:

1. Proper monitoring should be done to reduce overflow of water tanks.
2. During the practical process large amount of water is wasted which can be recycled and reused. Sock Pit can also be used.

3. Water Sensors and other modern techniques can be used to save water.

Conclusion:

The most scientific method of water conservation is through water audit. Every person and organization is accountable for paying attention to the least amount of water wasted through their water distribution network, which is known as water audit. The water audit report aids in providing information on the college water resources and water saving practices. This report will help in utilizing the water resources more efficiently and conserve water resources by minimizing wastage.

Committee Members:

1. Sri Jyoti Prasad Phukon (Advisor)

Jyoti Prasad Phukon

2. Dr. Paranan Konwar (Advisor)

Paranan Konwar

3. Ms. Mridusmita Patowary (Convenor)

Mridusmita Patowary

4. Dr. Bhenila Bailung (Member)

Bhenila Bailung

5. Ms. Kabyasri Hazarika (Member)

Kabyasri Hazarika



Bimal Chandra Gogoi
Dr. Bimal Chandra Gogoi
Principal
Sonari College

Principal
SONARI COLLEGE
SONARI

WATER ANALYSIS REPORT
SONARI P.H.E SUB-DIVISIONAL LABORATORY, SONARI
BUREAU OF INDIAN STANDARDS
IS10500-2012(2nd Revision)

Date 30/3/2022

1 pin point Location : Sonari College
 2 Name of Block : Sonari
 3 Name of G.P : Sonari
 4 Name of Village : Sonari Town
 5 Name of Habitation : Sonari Town [Arts Building]
 6 Source of Sample : D/W (Filter water)
 7 Date of Collection : 28/3/2022
 8 Nature of Test : Physical/ chemical/ Bacteriological
 9 Name of Collector : Arun Das

Sl No	Parameters	Desirable Limit	Permissible Limit	Value	Unit
PHYSICAL TEST					
1	Turbidity (N.T.U)	1	5	0.00	N.T.U
2	PH	6.5 to 8.5	No. relaxation	7.39	
CHEMICAL TEST					
3	Iron as(Fe)	0.3	1	0.13	Mg/Ltr
4	Alkalinity as (CaCo3)	200	600	140	Mg/Ltr
5	Hardness as(CaCo3)	200	600	84	Mg/Ltr
6	Nitrate as(No3)	45	45	—	Mg/Ltr
7	TDS(Total Dissolved Solids)	500	2000	141	Mg/Ltr
8	Chloride as(Cl)	250	1000	11.34	Mg/Ltr
9	Residual Chlorine	0.2	1	—	Mg/Ltr
10	Sulphate	200	400	4.10	Mg/Ltr
11	Flouride as (F)	1	1.5	<0.06	Mg/Ltr
12	Arsenic as(As)	0.01	0.05	0.00	Mg/Ltr
13	Calcium as (Ca)	75	200	36.07	Mg/Ltr
14	Manganese(Mn)	0.3	1	—	Mg/Ltr

Absent

15 BACTERIOLOGICAL:-

- a. Total Basall Coliform MPN/ 100 ml. :
- b. Total F.E Coliform MPN/ 100 ml :

Opinion:- The Parameter Tested at Sr. No in the test report does not meet the requirment of IS 10500: 2012(Second revision).

Test Done By :-

(Signature)
Asstt. Chemist (PHE);
Sonari Sub-Division
Sonari

(Signature)
Laboratory In-Charge
Sonari SDLL

(Signature)
Asstt. Executive Engineer (PHE)
Sonari Sub- Division, Sonari

WATER ANALYSIS REPORT
SONARI P.H.E SUB-DIVISIONAL LABORATORY, SONARI
BUREAU OF INDIAN STANDARDS
IS10500-2012(2nd Revision)

Date 30/3/2022

1 pin point Location :- Sonari College
 2 Name of Block :- Sonari
 3 Name of G.P :- Sonari
 4 Name of Village :- Sonari Town
 5 Name of Habitation :- Sonari Town [science Building]
 6 Source of Sample :- D/T/w (Filter water)
 7 Date of Collection :- 28/3/2022
 8 Nature of Test :- Physical/chemical/Bacteriological
 9 Name of Collector :- Ajeep Das

Sl No	Parameters	Desirable Limit	Permissible Limit	Value	Unit
PHYSICAL TEST					
1	Turbidity (N.T.U)	1	5	0.00	N.T.U
2	PH	6.5 to 8.5	No. relaxation	7.30	
CHEMICAL TEST					
3	Iron as(Fe)	0.3	1	10.10	Mg/Ltr
4	Alkalinity as (CaCo3)	200	600	182	Mg/Ltr
5	Hardness as(CaCo3)	200	600	60	Mg/Ltr
6	Nitrate as(No3)	45	45	—	Mg/Ltr
7	TDS(Total Dissolved Solids)	500	2000	55	Mg/Ltr
8	Chloride as(Cl)	250	1000	8.31	Mg/Ltr
9	Residual Chlorine	0.2	1	—	Mg/Ltr
10	Sulphate	200	400	3.12	Mg/Ltr
11	Flouride as (F)	1	1.5	10.06	Mg/Ltr
12	Arsenic as(As)	0.01	0.05	0.00	Mg/Ltr
13	Calcium as (Ca)	75	200	36.07	Mg/Ltr
14	Manganese(Mn)	0.3	1	—	Mg/Ltr

15 BACTERIOLOGICAL:-

- a. Total Basall Coliform MPN/ 100 ml. :.....
 b. Total F.E Coliform MPN/ 100 ml :-.....

Absent

Opinion:- The Parameter Tested at Sr. No in the test report does not meet the requirment of IS 10500: 2012(Second revision).

Test Done By :-

R. Ahmed
Asstt. Chemist (PHE);
Sonari Sub-Division
Sonari

[Signature]
Laboratory In-Charge
Sonari SDLL

[Signature]
Asstt. Executive Engineer (PHE)
Sonari Sub- Division, Sonari

WATER ANALYSIS REPORT
SONARI P.H.E SUB-DIVISIONAL LABORATORY, SONARI
BUREAU OF INDIAN STANDARDS
IS10500-2012(2nd Revision)

Date 30/3/2022

1 pin point Location : Sonari Colloge
 2 Name of Block : Sonari
 3 Name of G.P : Sonari
 4 Name of Village : Sonari Town
 5 Name of Habitation : Sonari Town [Cruils Hostel]
 6 Source of Sample : 8/7/w (Filter water)
 7 Date of Collection : 28/3/2022
 8 Nature of Test : Physical / chemical / Bacteriological
 9 Name of Collector : Arun Das

Sl No	Parameters	Desirable Limit	Permissible Limit	Value	Unit
PHYSICAL TEST					
1	Turbidity (N.T.U)	1	5	0.00	N.T.U
2	PH	6.5 to 8.5	No. relaxation	7.31	
CHEMICAL TEST					
3	Iron as(Fe)	0.3	1	0.13	Mg/Ltr
4	Alkalinity as (CaCo3)	200	600	140	Mg/Ltr
5	Hardness as(CaCo3)	200	600	72	Mg/Ltr
6	Nitrate as(No3)	45	45	-	Mg/Ltr
7	TDS(Total Dissolved Solids)	500	2000	115	Mg/Ltr
8	Chloride as(Cl)	250	1000	11.34	Mg/Ltr
9	Residual Chlorine	0.2	1	-	Mg/Ltr
10	Sulphate	200	400	4.13	Mg/Ltr
11	Flouride as (F)	1	1.5	<0.06	Mg/Ltr
12	Arsenic as(As)	0.01	0.05	0.00	Mg/Ltr
13	Calcium as (Ca)	75	200	32.06	Mg/Ltr
14	Manganese(Mn)	0.3	1	-	Mg/Ltr

15 **BACTERIOLOGICAL:-**

- a. Total Basall Coliform MPN/ 100 ml. : Absent
 b. Total F.E Coliform MPN/ 100 ml : Absent

Opinion:- The Parameter Tested at Sr. No in the test report does not meet the requirment of IS 10500: 2012(Second revision).

Test Done By :-

R. Ahmed
 Asstt. Chemist (PHE);
 Sonari Sub-Division
 Sonari

JS
 Laboratory In-Charge
 Sonari SDLL

[Signature]
 Asstt. Executive Engineer (PHE)
 Sonari Sub- Division, Sonari

WATER ANALYSIS REPORT
SONARI P.H.E SUB-DIVISIONAL LABORATORY, SONARI
BUREAU OF INDIAN STANDARDS
IS10500-2012(2nd Revision)

Date 30/3/2022

1 pin point Location :- Sonari College
 2 Name of Block :- Sonari
 3 Name of G.P :- Sonari
 4 Name of Village :- Sonari Town
 5 Name of Habitation :- Sonari Town [Boy's Hostel]
 6 Source of Sample :- D/T/WC Filter water
 7 Date of Collection :- 28/3/2022
 8 Nature of Test :- Physical/chemical/Bacteriological
 9 Name of Collector :- Ajeep Das

Sl No	Parameters	Desirable Limit	Permissible Limit	Value	Unit
PHYSICAL TEST					
1	Turbidity (N.T.U)	1	5	3.00	N.T.U
2	PH	6.5 to 8.5	No. relaxation	7.25	
CHEMICAL TEST					
3	Iron as(Fe)	0.3	1	1.26	Mg/Ltr
4	Alkalinity as (CaCo3)	200	600	114	Mg/Ltr
5	Hardness as(CaCo3)	200	600	64	Mg/Ltr
6	Nitrate as(No3)	45	45	—	Mg/Ltr
7	TDS(Total Dissolved Solids)	500	2000	109	Mg/Ltr
8	Chloride as(Cl)	250	1000	14.18	Mg/Ltr
9	Residual Chlorine	0.2	1	—	Mg/Ltr
10	Sulphate	200	400	5.10	Mg/Ltr
11	Flouride as (F)	1	1.5	0.10	Mg/Ltr
12	Arsenic as(As)	0.01	0.05	0.00	Mg/Ltr
13	Calcium as (Ca)	75	200	32.07	Mg/Ltr
14	Manganese(Mn)	0.3	1	—	Mg/Ltr

Absent

15 BACTERIOLOGICAL:-

- a. Total Basall Coliform MPN/ 100 ml. :.....
 b. Total F.E Coliform MPN/ 100 ml :.....

Opinion:- The Parameter Tested at Sr. No 3 in the test report does not meet the requirment of IS 10500: 2012(Second revision)

(Signature)

Test Done By :-

(Signature)
Asstt. Chemist (PHE)
Sonari Sub-Division
Sonari

Laboratory In-Charge
 Sonari SDLL

(Signature)
 Asstt. Executive Engineer (PHE)
 Sonari Sub- Division, Sonari

WATER ANALYSIS REPORT
SONARI P.H.E SUB-DIVISIONAL LABORATORY, SONARI
BUREAU OF INDIAN STANDARDS
IS10500-2012(2nd Revision)

Date 30/3/2022

1 pin point Location :- Sonari Collage
 2 Name of Block :- Sonari
 3 Name of G.P :- Sonari
 4 Name of Village :- Sonari Town
 5 Name of Habitation :- Sonari Town (Canteen)
 6 Source of Sample :- D/W (Filter water)
 7 Date of Collection :- 28/3/2022
 8 Nature of Test :- Physical/chemical/Bacteriological
 9 Name of Collector :- Arun Das

Sl No	Parameters	Desirable Limit	Permissible Limit	Value	Unit
PHYSICAL TEST					
1	Turbidity (N.T.U)	1	5	0.00	N.T.U
2	PH	6.5 to 8.5	No. relaxation	7.31	
CHEMICAL TEST					
3	Iron as(Fe)	0.3	1	0.13	Mg/Ltr
4	Alkalinity as (CaCo3)	200	600	140	Mg/Ltr
5	Hardness as(CaCo3)	200	600	72	Mg/Ltr
6	Nitrate as(No3)	45	45	—	Mg/Ltr
7	TDS(Total Dissolved Solids)	500	2000	58	Mg/Ltr
8	Chloride as(Cl)	250	1000	11.34	Mg/Ltr
9	Residual Chlorine	0.2	1	—	Mg/Ltr
10	Sulphate	200	400	4.17	Mg/Ltr
11	Flouride as (F)	1	1.5	<0.06	Mg/Ltr
12	Arsenic as(As)	0.01	0.05	0.00	Mg/Ltr
13	Calcium as (Ca)	75	200	32.06	Mg/Ltr
14	Manganes(Mn)	0.3	1	—	Mg/Ltr

absent

15 BACTERIOLOGICAL:-

- a. Total Basall Coliform MPN/ 100 ml.
 b. Total F.E Coliform MPN/ 100 ml.

Opinion:- The Parameter Tested at Sr. No in the test report does not meet the requirment of IS 10500: 2012(Second revision).

Test Done By :-

P. Ahmed
Asstt. Chemist (PHE);
Sonari Sub-Division
Sonari

Laboratory In-Charge
 Sonari SDLL

[Signature]
 Asstt. Executive Engineer (PHE)
 Sonari Sub- Division, Sonari



Notice

Date : 10.11.2022

As per requirement of NAAC a committee is formed in the name of "**Water Audit Preparation Committee**" with the following members.

- ✓ 1. Sri Jyoti Prasad Phukon, Advisor
2. Dr. Paranan Konwar, Advisor
3. Ms. Mridusmita Patowary, Convenor
4. Dr. Bhenila Bailung, Member
5. Ms. Kabyasri Hazarika, Member

The Committee is entrusted to take necessary steps for preparation of Water Audit report and submit the same to the undersigned as early as possible.


Principal
Sonari College
Principal
SONARI COLLEGE
SONARI