SSA-1

APPX -5.

DEPARTMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE
CHIEF WATER ANALYST'S LABORATORY, COIMBATORE - 18.

From

Tmt. R. Malarvizhi, M.Sc., M.Ed.,
Chief Water Analyst,
219, Race Course Road,
Coimbatore – 641 018.

To

The Principal,
Sainik School,
Amaravathy Nagar – 642 102,
Udumalpet Taluk, Tiruppur District.

R.No. 1334 / A3 / 2020 (423) CWA/CBE, R.1285 – R.1289 Dated: 11.01.2021.

Sir,

Sub: Report on Examination of Water Samples from Sainik School, Amaravathy Nagar, Tiruppur District, Collected on 22.12.2020.

*****

The Sainik School, Amaravathy Nagar, Udumalaipettai Union, Tiruppur District derives its drinking water from,

1. Amaravathy Dam Water – Main Canal.
2. Borewell Water.

1. Amaravathy Dam Water – Main Canal

The water from Amaravathy Dam fom main canal is pumped to sedimentation tanks (3 Nos.) at school compound, passed to pressure sand filter bed and finally the water is stored in a GLR. After chlorination (by Liquid Chlorine) the water is pumped to SR near M.I.room and distributed to various wards, Staff Quarters, Student Hostels and Mess, etc.

But the mixture of Amaravathy dam water and borewell water was supplied on the day of sampling.

2. Borewell – I near Perumpallam Odai

The borewell at back side of the school compound is pumped to a GLR and again pumped to sintex tanks at Mess and passed to R.O. Plant. The R.O. outlet water is stored in a sintex tank and used for drinking and culinary uses.

Borewell - II

The borewell is located near Junior boy hostel. This borewell water is used for other than drinking purpose.

Five samples of water for chemical and bacteriological analysis were collected on 22.12.2020 for periodical water quality monitoring.

The results of analysis are furnished overleaf.

1. Water from Amaravathy Main Canal, Source : Mixture of Amaravathy Dam Water and Borewell Water (R.1285)

The sample of water is Colourless and clear in physical appearance.

The chemical analysis reveals that, it is hard and mineralized. The total solids (540 mg/l), total hardness (240 mg/l) and total alkalinity (348 mg/l) content of this water exceed the minimum permissible limits (500 mg/l and 200 mg/l respectively) prescribed by

Bureau of Indian Standards for a drinking water. However it is of acceptable chemical quality for drinking.

But it is very poor bacteriological quality as evidenced by the presence of E.Coli-I organisms of faecal origin. It also shows few microscopic organisms.

2. Clear Water GLR (R.1286)

The sample of water is Colourless and clear in physical appearance.

The chemical analysis reveals that, it is hard and mineralized. The total hardness (210 mg/l) and total alkalinity (294 mg/l) content of this water exceed the minimum permissibie limits (200 mg/l) prescribed by Bureau of Indian Standards for a drinking water. However it is of acceptable chemical quality for drinking.

It is of satisfactory bacteriological quality for drinking.

3. Borewell water from Perumpallam Odai (R.1287)

4. Borewell water near Junior Boy's hostel (R.1288)

The above two samples of water are Colourless and clear in physical appearance.

They are of satisfactory chemical and bacteriological quality for drinking.

5. R.O outlet water from Feeder's house, Source : Borewell Water (R.1289)

The sample of water is Colourless and clear in physical appearance.

The chemical analysis reveals that it is very soft. The total hardness is only 8 mg/l. The Calcium and Magnesium are almost removed from this water. The Calcium and Magnesium are very essential minerals for healthy living of human beings. Consumption of this type of water for a prolonged time will be deleterious to the health of the consumers.

Hence it is advised that, the supplier of the R.O. Plant should be contacted immediately along with a copy of this report, to set right the R.O. Plant in such a way that the water contains atleast a minimum 30 mg/l of total hardness, so as to have some amount of Calcium and Magnesium in the outlet water of R.O. Plant, which are very essential for healthy life.

It is of satisfactory bacteriological quality.

The sample of Sodium hypochlorite solution collected from the stock contains 5% of available chlorine. It is of satisfactory quality for water disinfection purpose.

It is also suggested that the R.O. Plant should be maintained periodically as per the supplier's manual to get hygienic safe at all times.

All the Sump / OHT / Sintex should be cleaned atleast once in a month.

12/1/2021

CHIEF WATER ANALYST,
COIMBATORE – 18.

Copy submitted to 1. The Director of Public Health and Preventive Medicine, Chennai-6.

Copy to 1. The Deputy Director of Health Services, Tiruppur District.
2. Lab / File.

Ntg / 12.01.2021

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DEPARTMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE

CHIEF WATER ANALYST'S LABORATORY, COIMBATORE - 641 018

RESULTS OF EXAMINATION OF SAMPLES OF WATER

Samples from :	**Sainik School, Amaravathy Nagar, Udumalpet Taluk, Tiruppur – 642 102.**				
Collected by :	**Thiru. A.V. Loganathan, Health Inspector, Gr.I**				
Date of collection:	**22.12.2020**				
Date of Receipt :	**23.12.2020**				
	R.1285	**R.1286**	**R.1287**	**R.1288**	**R.1289**
Source as per label	Water from Amaravathy Main Canal	Clear Water GLR	Borewell water from Perumpallam Odai	Borewell near Junior Boy's hostel	R.O water from Feeder's house
Source :	Mixture of Amaravathy Dam Water and Borewell Water				Borewell
Bacteriological Examination					
Plate count per ml.on agar at 37°C24 hrs.	800	0	0	0	0
MPN of Coliform bacteria/100ml	93	0	0	0	0
Rapid test for E-Coli -I	E.Coli - I				
Results of Vibrio test					
Physical Examination					
Colour	Colourless	Colourless	Colourless	Colourless	Colourless
Turbidity (NTU)	1	2	3	2	1
Smell	None	Highly Chlorinous (2.22 mg/l)	None	None	None
Chemical Examination(in mg/l)					
Total Dissolved solids	540	450	290	400	25
Carbonate Hardness (as $CaCO_3$)	240	210	126	158	8
Non-carbonate Hardness(as $CaCO_3$)	0	0	0	26	0
Total Hardness (as $CaCO_3$)	240	210	126	184	8
Chloride (as Cl)	37	36	26	86	3
Ammoniacal Nitrogen (as N)	0.05	-	0.05	0.03	0.03
Albuminoid Nitrogen (as N)	-	-	-	-	-
Oxygen absorbed(Tidys test) in 4 hrs	0.64	-	0.76	0.36	0.08
Nitrate nitrogen	1	1	1	1	0.5
Acidity/Alkalinity} Phenolphthalein	0	0	0	0	0
as $CaCO_3$ } Methyl Orange	348	294	178	158	15
Fluoride (as F)	0.8	0.8	0.6	0.4	0.1
pH value	7.3	7.5	7.5	6.5	7.0
Total Iron (as Fe)	0.05	0.05	0.05	0.05	0.05
Manganese (as Mn)	-	-	-	-	-
Qualitative Tests					
Nitrite Nitrogen	Trace	Nil	Trace	Trace	Trace
Sulphate	Trace	Trace	Trace	Trace	Nil
Phosphate	Trace	Trace	Trace	Trace	Nil
Toxic Substance	-	-	-	-	-
Electrical conductivity (Reciprocal megohms per cm at 20°C)	760	640	410	560	30
Microscopical Examination	Pediastrum, Coelastrum, Spirogyra, Volvox, Tabellaria, Synedra, Coleps & Amorphous matter	Amorphous matter	Amorphous matter	Amorphous matter	Amorphous matter

Available chlorine (Percent by Volume) in the Sodium Hypochlorite Solution = **5%**