Telephone: 044-2999 7572.

DEPARTMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE

R.No.3742/C/2022 Misc – 380 & 381 Dated: 02.12.2022

From
Tmt.L.Sujatha, M.Sc., M.A., B.Ed.,
CHIEF WATER ANALYST
Chief Water Analyst's Laboratory,
King Institute Campus, Guindy,
Chennai-600 032.

To
The Principal,
KendriyaVidyalaya,
DGQA.,
Palavanthangal,
Chennai -600 114.

Sir,

Subject: Report on examination of water samples - Regarding.

Two samples of water stated to have been collected on 14.11.2022 by Thiru. M. Nakkeeran from the following source/point located within the premises of Kendriya Vidyalaya DGQA, Palavanthangal, Chennai-61 were received at this laboratory on the same day from the addressee to assess their suitability for drinking purposes.

1. Bore Well located on the left side of Play Ground (MISC 380)
2. RO plant outlet water located at First Floor, Main Building (MISC 381)

The Results of analysis are furnished over leaf.

1.Bore Well located on the left side of Play Ground (MISC 380)

The above sample of water is colourless and clear in physical appearance.

Chemical analysis reveals that it is moderately mineralized, hard and is considered to be acceptable chemical quality for drinking purposes.

However, it is of poor bacteriological quality for drinking purposes as evidenced by the presence of Coliform group of organisms.

Hence the source of water needs disinfection before consumption.

Mode of Disinfection :

The disinfection is carried out by chlorinating the water collected from the source at the storage units (OHT/ Sump) by using 4 gms of BIS grade bleaching powder containing 32 to 34 % of chlorine content or 20 ml of 4 to 6 % sodium hypochlorite solution for every 1000 litres of water with half an hour contact time before distribution.

RESULTS OF EXAMINATION OF SAMPLES OF WATER

From: The Principal, Kendriya Vidyalaya, DGQA, Palavanthangal, Chennai-61.
Collected by: Thiru.M.Nakkeeran

		Misc-380	Misc-381		
Date of Collection : 14.11.2022 Date of Receipt : 14.11.2022 Source as per label		Bore Well water located on the Front side of Play Ground	RO plant outlet water located at first floor Main Building		Maximum permissible limit for drinking water as per BIS 10500/1991
Bacteriological Examination	Total colonies per ml on agar at 37°C	90	10		20
	MPN of Coliform bacteria per 100 ml.	210	0		0
	Nature of coliform bacteria isolated.	K.Aerogens-II			absent
	Results of vibrio test				
Physical Examination	Colour	Colourless	Colourless		Colourless
	Turbidity (Units)	5	3		10
	Smell	None	None		None
Chemical Examination (in mg/1).	Total dissolved Solids8	610	20		2000
	Carbonate hardness as $CaCo_3$	264	2		-
	Non- Carbonate hardness as $CaCo_3$	80	0		-
	Total hardness as $CaCo_3$	344	2		600
	Chloride as Chlorine	82	5		1000
	Ammoniacal nitrogen	--	--		Nil
	Albuminoid nitrogen	--	--		Nil
	Oxygen absorbed (Tidy's test)	0.64	0.32		-
	Nitrate-nitrogen	1.0	0.5		10
	Alkalinity as $CaCO_3$ — Phenolphthalein	0	0		-
	Alkalinity as $CaCO_3$ — Methyl Orange	264	6		600
	Fluoride as Fluorine	0.2	Nil		1.5
	PH.	7.2	6.7		6.5-8.5
	Iron as Fe Total	0.05	Nil		0.3
	Ferrous	Nil	Nil		Nil
	Manganese as Mn.	Nil	Nil		0.3
	Qualitative- Nitrite nitrogen	Trace	Trace		Trace
	Sulphate	Trace	Trace		400
	Phosphate	Trace	Trace		Trace
	Toxic substances				
	Electrical conductivity (Reciprocal megohms per Cm^3 at 20°C)	870	30		-
Microscopical Examination		Amorphous matter	Amorphous matter		

2. RO plant outlet water located at First Floor, Main Building (MISC 381)

The above sample of RO water is colourless and clear in physical appearance.

Chemical analysis reveals that it is very soft and less mineralized. Even though it is of usable chemical quality for drinking, the total hardness is too low with only 2.0 mg/l .The calcium and magnesium elements are almost removed from this water, which are very essential for healthy living of human beings. Consumption of such RO water having low content of hardness for a prolonged time would be deleterious to the health of human beings including growing children.

Hence, it is advised that the firm that installed the R.O. unit should be contacted with this analytical report to set right the RO unit in such a way that the outlet water should contain atleast a minimum content of total hardness of 30 mg/l so as to have some amount of calcium and magnesium that are very essential for healthy life.

It is of satisfactory biological and bacteriological quality for drinking purposes on this occasion.

13.12.2022

for CHIEF WATER ANALYST,
Chief Water Analysis Laboratory,
Guindy, Chennai – 32.

13.12

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T.P

13/12/2022