Telephone: 044-2999 7572. E-mail id - cwadph.chn@gmail.com



DEPARTMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE

From

Tmt. L.Sujatha, M.Sc., M.A., B.Ed.,

CHIEF WATER ANALYST

Chief Water Analysis Laboratory,

King Institute Campus, Guindy,

Chennai - 600 032.

To

The Commissioner,

Villupuram Municipality, 403

the

Villupuram,

Villupuram District.

R.No.3267/C/2023 (TNR 1890 to 1902) Dated:17.11.2023

Sir,

Sub

Report on examination of Water samples from

Villupuram Municipality, Villupuram District - collected on

17.10.2023.

非非非非非

The Villupuram Municipality derives its drinking water supply from the following sources:

Water Sources:

- Infiltration Well (3 Nos.) laid along the river bed of Thenpennai at Ellis Cha-thram.
- Bore Wells (5 Nos.) laid along the river bed of Thenpennai at Ellis Challram.

3. Bore Wells (2 Nos.) at Konangippalayam.

4. Bore Well (1 No.) at Pillur.

Bore Well (1 No.) at Ezhil Nagar.

Water Supply:

Mixture of Infiltration Wells (3 Nos.) and from Bore Wells (5 Nos.) is collected in two separate sumps located at Ellis Chathiram pumping station and pumped into OHTs (6 Nos.).

S.No.	Location of OHTs	Capacity in Litres
1	Travellers Bungalow	9,00,000
2	Alamelupuram	4,00,000
3	Narasingapuram	6,00,000
4	Kamarajar Nagar	4,00,000
5	Throwpathi Amman Koil Street	4,00,000
6	Collectorate Campus	1,00,000

From: The Villupuram Municipality, Villupuram District & HUD. Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I.

		TNR- 1890 Mixture of the	TNR-1891	m@email.com		
	eceipt : 18.10.2023	Infiltration Wells (3 Nos.) water from collection sump at Ellis Chathiram pumping station	Water from 1st tap after Travellers Bungalow OHT –Zone I	Tap in Kamarajar Street	Tap in Thanthai Periyar Street	Tap in Mel Theru
	Total colonies per ml on agar at 37°C	100	0	3 1 0 2 22 33	SET STORY ET A	333113
gical	MPN of Coliform bacteria per 100 ml.	210	0	0	ater 0 mary	7 10100
cteriolc	Rapid Test for E.Coli-I Results of vibrio test	Positive		Ms, Cumos	ntute Cam – 600.032.	King Int Chennal
	Colour	Colourless	Colourless	3267/C/202	R.No	7 6
ical	Turbidity (Units)	5	5		market de la company	nia/\
Physical Examination	er samples from lence linet – collected on	None	Faintly Chlorinous (0.5 ppm)	eport on	il : di	18
	Total Solids	830	830	2 10,20203.		/
	Carbonate hardness as CaCo₃	228	232			
	Non- Carbonate hardness as CaCo ₃	44	40			
	THE RESERVE	272	272	MIDIAL HIRT	idnitti A. at	
	Total hardness as CaCo ₃ Chloride as Chlorine	188	188		g sources!	awollot
	Ammoniacal nitrogen		-			
		-	-		1222100	THEN
	Albuminoid nitrogen	0.56	0.0	r r 11 - 117	- Constitution	
	Oxygen absorbed (Tidy's test)	1.0	1.0	2 (C) 110 14 116	JEBHHHH HIVETON	4
mg/1	Nitrate-nitrogen Acidity Phenolphthalein	river 0 d of The	of and a bi	lls (5 Nos.) la	Bore We	0
no (in	as CaCO ₃ Methyl Orange	228	232	lls (2 Nos.) at	Bore We	CD 3
ninatic	Fluoride as Fluorine	0.6	0.6	H (i No.) at P	Bore We	4
l Exan	PH.	7.9	7.7	II (4 No.) 8 I	. Bore We	3
Chemical Examination (in mg/1).	Iron as Fe Total	0.05	0.05		· ylagu?	noteW
ਰ Vells	Ferrous	(2-blog)	- 14100 - 121	100		
NISTI		te sumps loc	Marias must	ai battati	STUTE	
	Manganese as Mil.	Nos.).	to OHTs (6	nd pumped in		
	Qualitative-	Trace	Nil	and of the	annane 9	rafrind
	Nitrite nitrogen Sulphate	Trace	Trace	Locati	S.No.	
		Trace	Trace	Travellers Di	- 1	
	The same and the s	00,00,01	ana man		7 7 7	1
	Electrical conductivity (Reciprocal megohms/Cm³ at 25°C)		1190	Kamarajar 1	4	

Microscopical Examination

Spirogyra, Monas, & Amorphous matter

The mixture of water from the Concerned OHTs is distributed to the Public after Chlorination for drinking purpose.

- 2. Mixture of water from the Bore Wells (2 Nos.)located at Konangippalayam pumping station and Water from the Bore Well (1 No.) located at Pillur pumping station is collected in two separate sumps (each 1,00,000 liter capacity) in their respective areas, pumped into OHT located at Zone II East Pondy Road and then distributed to the Public and directly supplied to some streets where there is no OHT.
 - 3. Water from a Bore Well located at Ezhil Nagar pumping station is collected in a sump, pumped into OHT located at Ezhil Nagar (1,00,000 liter capacity) and then distributed to the public for drinking.

Drinking water is distributed every two days and adequate water supply is being maintained by adopting zonal system throughout the municipality.

37 samples of water for bacteriological analysis and 13 samples of water or chemical and biological analysis were collected on 17.10.2023 from the Villupuram Municipality in connection with the periodical water quality monitoring for drinking purpose.

The results of analysis are furnished herewith:

1.Mixture of the Infiltration Wells (3 Nos.) water from collection sump at Ellis Chathiram pumping station (TNR – 1890).

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

Chemical analysis reveals that, it is hard and mineralized. However it is of acceptable chemical quality for drinking.

It is of very poor bacteriological and biological quality as evidenced by the presence of E-Coli I organisms of faecal origin and is found some algae and unicellular organisms. It is due to absence of chlorination.

2.Mixture of Bore Wells(5 Nos.) water from collection sump located at Ellis Chathiram pumping station (TNR – 1892).

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

Chemical analysis reveals that, it is hard and slightly mineralized. However it is of acceptable chemical quality for drinking.

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

3.Mixture of BoreWells(2 Nos.) water from collection sump located at Konangippalayam pumping station (TNR – 1898).

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

Chemical analysis reveals that, it is very hard and mineralized. However it is of acceptable chemical quality for drinking.

From: The Villupuram Municipality, Villupuram District& HUD.

Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I. and his not not mobile to the collected by:

Date of R	bllection: 17.10.2023 seceipt: 18.10.2023 s per label	Mixture of Bore Wells(5 Nos.) water from collection sump located at Ellis Chathiram pumping station	Water from 1st tap after Alamelu puram OHT	Tap in Subiksha Garden	Tap in Mooventhar Nagar	Tap in Dhana- lakshmi Garden
	Total colonies per ml on agar at 37°C	100	0. 31311	ataum sia	dans autos ot t	enddns
olc na	MPN of Coliform bacteria per 100 ml.	210 be	Well 0 local	0	mo 0	0
	Rapid Test for E.Coli-I	Negative	mped into	ug "qmuz	n ni bana	lloo si
Bac	Results of vibrio test	lie for drinking	ted to the pub	n distribut	vacity) and the	liter car
9 ng	Colour Tollaw Simups	Colourless	Colourless	distraits ei s	Hinking wat	
Physical Examination	Turbidity (Units)	oinum 5dr teor	ysiom5mous	ng zonal s	ned by adopti	staiens
Phr Exam	nd 13 samples of llem?	None Iso	Chlorinous (2 ppm)	water fo	7 samples of	
men	Total Solids	ecter 008 17.1	830	ical analy	al and biolog	chemic
	Carbonate hardness as CaCo₃	204	232	ection w	pality in cour	Munic
	Non- Carbonate hardness as CaCo ₃	52	40			socmo
Ellis	Total hardness as CaCo₃	256	272	frede ana fi	enche elluse	odT.
		188	188		NINO IN CHIPCH	22.L.A
	Chloride as Chlorine	os.) water fre	Wells (3 Pt	distration	are of the	1.Mix
	Ammoniacal nitrogen		GIGRT - NAUT	g station	ram pumpin	Chathi
	Albuminoid nitrogen	0.48	0.0	water is d	he sample of	
	Oxygen absorbed (Tidy's test)	1.0	1.0	S. E. See		
mg/1)	Nitrate-nitrogen Acidity Phenolphthalein	o limit brue o limit	0	ysis revea	hemical anal	
ı (ju ı	as CaCO ₃ Methyl Orange	204	232	JOS ASSEND	ble chemical	accepta
Chemical Examination (in mg/1).	mality as evidenced by	0.6	0.6	poor bac	t is of very	
Exam	Fluoride as Fluorine	7.5	7.4	organisms	I iloD-II to e	presenc
mical	PH.	0.05	0.05	onseds of	ms. It is due	organis
Che	Iron as Fe Total		7 7 7 7	NellaW a	are of Born	2.Mixt
	Ferrous	1892).	tion (TNR+			Ellis C
	Manganese as Mn.					
	Qualitative-	Trace	bas sashuolo Nil	water is co	he sample of	
	Nitrite nitrogen	ard and slightly	Trace	ysis reveal	hemical anal	
	Sulphate	Trace	Junitary act	dileup le	ptable chemic	soos lo
	Phosphate Toyle substances	Trace	Trace	tory bacto	t is of satisfac	
	Toxic substances Electrical conductivity (Reciprocal megohms/Cm³ at 25°C)	1140	1190	HoreWell	30 970	3.Migt

Microscopical Examination

Amorphous

Amorphous

From: The Villupuram Municipality, Villupuram District & HUD.

Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I.

	The state of the s	TNR- 1894	T	G Js	2	TNR-1895
Date of Re	Descript: 17.10.2023	Water from 1 st tap after Narasinga puram OHT	Tap in Santhana Gopalapuram	Tap in Ilango Adigal Street	Tap in Maga baratha Theru	Water from 1st tap after Kamarajar HSS Backside OHT
to et	Total colonies per ml on agar at 37°C	0	is that, it is la	allysis reves	Demical a	0
ical	MPN of Coliform bacteria per 100 ml.	0	0	0	O Side	ndao-0
riolog	Rapid Test for E.Coli-I	1000		actory-bacter	eites To ei 1	
Bacteriological Examination	Results of vibrio test		1			
	Colour	Colourless				Colourless
ation	in the material	5	(.ovi 1) Hey	he Bore W	mort is	teV/.5
Physical Examination	Smell	Faintly Chlorinous (0.5 ppm)	dourless and ci	rc = 1900h of water is co	Koan (17) The sample	Faintly Chlorinous (0.5 ppm)
is of	Total Solids	780	d at it took at	naver similar	s lestendo	780
	Carbonate hardness as CaCo ₃	204	drinking	al appliety for	nimeda alda	208
	Non- Carbonate hardness as CaCo ₃	44	- 34			48
	itty on this occasion.	248	iological and b	actory bacter	it is of satist	256
	Total hardness as CaCo ₃	100	after Travell	Tel tan	mon3 no	180
	Chloride as Chlorine	-	AUREAU ANDE		-1891).	OVITA -
	Ammoniacal nitrogen	SMT TH	Omanuauloni	e k-mila ga	ar mont to	- W.
	Albuminoid nitrogen	0.0	asingapurala	ap after Nar	er from 1 ¹⁵ t	0.0
	Oxygen absorbed (Tidy's test)	1.0	Barajar HSS	an after Kan	7.	gW.1.0
g/1).	Nitrate-nitrogen	0	n A introvers	tap after In	ter from	W.010
(in m	Acidity Phenolphthalein	THO sugm	ollectorate Car	and the same of the same of the same of	ter from I st	208
Chemical Examination (in mg/1).	as CaCO ₃ Methyl Orange	204	ist Pondy Roai	tap after Ea	ter from [8	0.6
aming	Fluoride as Fluorine	0.6				
sal Ex	clear in physical appear		of water are on			7.7
hemir	Iron as Fe Total	1 gm c 0.1 gov	rded (R.C. betw	our and recor	ntorinous od	is div0.1
Tavav		are very han	yed) sizylens	to results of	1 vd bogbui	
			and williams	teoloods std	O social of	they di
	Qualitative-		this occasion.	g purposes on	for drinking	vilsup Nil
		Nil	offected from al	s of water co	The samples	
	Sulphate	Trace	this occasion.			Trace
	Phosphate	Trace	Hill year / Lide	tan after Es	no (1 19)	Trace
	Toxic substances					
	Electrical conductivity (Reciprocal megohms/Cm³ at 25°C)	1120	olourless and cl	OI Water IS Co	The sample	1120

Microscopical Examination Amorphous matter Microscopical Examination matter

It is poor bacteriological quality as evidenced by the presence of coliform organisms.

It also shows few microscopical organisms.

4.Water from the Bore Well(1 No.) water from collection sump located at Pillur pumping station (TNR – 1899).

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

Chemical analysis reveals that, it is hard and mineralized. However it is of acceptable chemical quality for drinking.

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

5.Water from the Bore Well (1 No.) from as it falls in OHT in East Pondy Road (TNR – 1900).

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

Chemical analysis reveals that, it is hard and mineralized. However it is of acceptable chemical quality for drinking.

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

6.Water from 1st tap after Travellers Bungalow OHT – Zone I (TNR – 1891).

7. Water from 1st tap after Alamelupuram OHT (TNR - 1893).

8. Water from 1st tap after Narasingapuram OHT (TNR - 1894).

9. Water from 1st tap after Kamarajar HSS Backside OHT (TNR - 1895).

10. Water from 1st tap after Throwpathi Amman Street OHT (TNR - 1896).

11. Water from 1st tap after Collectorate Campus OHT (TNR - 1897).

12. Water from 1st tap after East Pondy Road OHT Zone II (TNR - 1901).

The above seven samples of water are colourless and clear in physical appearance with chlorinous odour and recorded (R.C. between 0.5 mg/l to 2.00 mg/l).

Judged by the results of analysis, they are very hard and mineralized, however they are of acceptable chemical quality and satisfactory of biological and bacteriological quality for drinking purposes on this occasion.

The samples of water collected from all the distribution taps are of satisfactory hygienic quality for drinking on this occasion.

13. Water from 1st tap after Ezhil Nagar OHT (TNR - 1902).

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

Chemical analysis reveals that, it is very hard and highly mineralized. The total solids (2200mg/l), total Hardness (672 mg/l), and total sulphate (< 400 mg/l) contents are exceeding the maximum permissible limits (2000 mg/l, 600 mg/l and 400

mg/l respectively) as per BIS for drinking water. Hence this water is of unsuitable for drinking.

However, it is of satisfactory bacteriological and biological quality on this occasion.

The following suggestions are offered for immediate implementation to ensure hygienic safety of drinking water supply:

- 1. Proper fencing/compound wall should be provided to pumping station without a perimeter wall to prevent the entry of strangers/cattle and to prevent the extraneous contamination of drinking water.
- 2. Any unwanted Vegetation in the OHT area should be removed and the surroundings should be kept clean and tidy as per sanitary specifications.
- 3. The sumps/OHTs should be scrubbed and cleaned with strong solution of bleaching powder atleast once a month so as to ensure hygienic safety of storage units.
- 4. It is advised for systematic and uninterrupted chlorination of all storage units so that all the distribution ends should record 0.2 ppm to 0.5 ppm of residual chlorine.
- 5. The public should be health educated to use only protected water or boiled and cooled water for drinking.

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

24/11/23 DBW)

Copy submitted to: The Director of Public Health and Preventive Medicine,

Anna Salai, Chennai – 6.

The Commissioner of Municipal Administration, Urban Administrative Building, Santhome High Road, MRC Nagar, Raja Annamalaipuram, Chennai -28.

Copy to: The Deputy Director of Health Service, Villupuram HUD,
Villupuram District.

The Municipal Engineer, Villupuram Municipality, Villupuram District.

The Lab and File

From: TheVillupuram Municipality, Villupuram District& HUD. Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I.

						TNR-1896		
Date of R	ollection: 17.10.2023 eceipt: 18.10.2023 s per label	Tap in VOC Street	Tap in Napalayan Theru	Tap in Gurusami Pillai Street	Water from 1st tap after Throwpathi Amman Street OHT	Tap in Thiruppugazh Street		
	Total colonies per ml on agar at 37°C	strans0.rs/cat	nt the entry of	wall to preve	neriOneter			
2 27	MPN of Coliform bacteria per 100 ml.	- Orsiaw	on of Orinking	cont0minat	exti0neous	0		
	Rapid Test for E.Coli-I	in the	/egetation	wanted "	Aby - un	. 2.		
	Results of vibrio test	nould be ke	rroundings si	and the su	removed			
	Colour			ecifications.	Colourless			
ion	Colour	baddiena	sd bluods	aTITO Same	5			
Physical Examination	Turbidity (Units)	least once	should be	partition of	Faintly	e la companya de la companya della companya della companya de la companya della c		
Exa	Smell	marrie renor	age units.	afety of stor	Chlorinous			
					(0.5 ppm)			
	Total Solids	and uninter	systematic :	vised for	780	4.		
	Carbonate hardness as CaCo₃	stribution en	t all the dis	nits so that	204			
	Non- Carbonate hardness as CaCo₃		.hlorine.	of residual	52 01			
	Total hardness as CaCo₃	ur of bates	ha dilend o	d bluoris -	256	7		
O TO	Chloride as Chlorine		E for drinking	ateur halona	184			
	Ammoniacal nitrogen			TREE CONTRACTOR				
	Albuminoid nitrogen							
1202	24/11	,(0)			0.0			
ST	Oxygen absorbed (Tidy's test)	طعر وال			1.0			
mg/1	Nitrate-nitrogen Acidity Phenolphthalein	V Chief	F 13 - 1		0			
n (in r	Contractor (Charlesot - 22)				204			
Chemical Examination (in mg/1).	as CaCO ₃ Methyl Orange	100			0.6			
Exami	Fluoride as Fluorine	SA 200			7.6			
lical f	PH.	ealth and Prev	or of Public H	to military Trans	0.1	- C		
Chen	Iron as Fe Total	WIT THE THES			of bon 0.1due	Copy		
	Ferrous		i, Chennai – b.	Anna Sala				
	Manganese as Mn.	Lincipal Adv						
	Qualitative-	Santhome is	ative Building.	- Administra	271			
	Nitrite nitrogen	uram, Chemia	a Annamalaip	Nagar, Rai	Nil			
	Sulphate	Icalth Service	y Director of 1	: The Deput	Trace			
	Phosphate		District.	Villupurum	Trace			
	Toxic substances	Villupuram	ipal Engineer,	Pine iviunic	A LINE			
	Electrical conductivity (Reciprocal		District.	msugutity)	1120			
	megohms/Cm³ at 25°C)		1397.1		1120			

Microscopical Examination

From: TheVillupuram Municipality, Villupuram District& HUD.

Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I. M. Marial Tayd betreeffed

Microscopical Examination

Date of Receipt : 18.10.2023 Source as per label		Tap in Sarveswaran Street	Tap in Sanmuga peruman main Road	Water from 1st tap after Collectorate Campus OHT	Tap in Es Garden	Tap in VAO Garden	
	Total colonies per ml on a		mothule gathp	and 1	0		
Bacteriological Examination	MPN of Coliform bacteria	per 100 ml.	100 0	- 0	OVE 16 VEH	no les valores	0
acteriologica Examination	Rapid Test for E.Coli-I		0011<	0	Jm 001, 100	natived modification	Ama 28
Bac	Results of vibrio test		legative	4		1-Re0.3 tol resT b	local 12 0
	Colour				Colourless	its of vibrio test	man D. E.
ical	Turbidity (Units)		olourless - C) — — — — — — — — — — — — — — — — — — —	5		asari (1947)
Physical Examination	Smell		5		Chlorinous (2 ppm)	day (Units)	Turk Total
oningli).	Total Solids	None	None		850		Intrical Control
	Carbonate hardness as C		JUNIT		224		
			1270		56	Shilds	367
	Non- Carbonate hardnes		004		280	onate hardness as 1	hs3
	Total hardness as CaCo₃		1 0		208	Carbonide hardness	sold.
	Chloride as Chlorine		400		200	hardness as CaCo	erot Total
	Ammoniacal nitrogen		081			ide as Oldorine	163
	Albuminoid nitrogen				0.0	magic that leasting	
	Oxygen absorbed (Tidy'	s test)			3.0	negotile bionin	
0,73	Nitrate-nitrogen		08.0		0		
in mg	Acidity Pheno	lphthalein	3.0				100
tion (as CaCO ₃ Me	thyl Orange	0		224	le-nitregen	6
amina	Fluoride as Fluorine		Collection .		0.6	1	3
al Ex	PH.		0.00		8.0	1 to	1 1
Chemical Examination (in mg/1).	Iron as Fe Total		1.0		0.05	ide as Fluorine	Floor
	Ferrous						89 5
	CU.U		60.0			latot e4 au	1001
	Manganese as Mn.					Retrous	
	Qualitative-				Nil	panese as Mn.	utifA .
	Nitrite nitrogen Sulphate		Trace		Trace	Whish	100
	Phosphate		Present		Trace	negoriin e	
	Toxic substances		3333333			3	4.96
	Electrical conductivity megohms/Cm ³ at 25°C	(Reciprocal	Trace		1220	phate	

matter

From: The Villupuram Municipality, Villupuram District & HUD.

Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I. M. Marida and beneather

	NO. THE STATE OF T	IR-1897	/11	TNR-1898	TNR-1899	TNR-1900	TNR-1901
Date of	Collection: 17.10.202 Receipt: 18.10.202 as per label	Traffic con	Tap in Subramaniya Sami Street	Mixture of Bore Wells(2 Nos.) water from collection sump located at Konangippalayam pumping station	Water from the Bore Well(1 No.) water from collection sump located at Pillur pumping station	Water from the Bore Well(1 No.) from as it falls in OHT in East Pondy Road	Water from 1st tap after East Pond Road OHT Zone II
_0	Total colonies per ml or	n agar at 37°C	0	100	10	90	0 1494
ogica	MPN of Coliform bacter	ria per 100 ml.	0	>1100	0	210	igst 0
Bacteriological Examination	Rapid Test for E.Coli-I			Negative		Negative	med - Rest
Bac	Results of vibrio test	lourless	10		THE REAL PROPERTY.		oloo -
	Colour	2		Colourless	Colourless	Colourless	Colourles
Physical Examination	Turbidity (Units)	dorinous (2 ppm)	9	. 5	5	5	5
Ph Exam	Smell	850		None	None	None	Slightly Chlorinous (1 ppm)
	Total Solids	56		1270	860	910	830
	Carbonate hardness as			400	224	272	232
	Non- Carbonate hardne	ess as CaCo ₃		0	56	0 0 0	40
	Total hardness as CaCo	997		400	280	272	272
		3		180	208	148	188
	Chloride as Chlorine					osportis blosim	dA-1
	Ammoniacal nitrogen				(Jania	gen absorbed (Tidy)	0x0
	Albuminoid nitrogen			0.80	0.4	0.48	0.0
	Oxygen absorbed (Tidy			3.0	3.0	3.0	3.0
(in mg/1).	Nitrate-nitrogen Acidity Pheno	lphthalein		0	0	0 1900	0
	-			440	224	332	232
Chemical Examination		thyl Orange					
Exam	Fluoride as Fluorine			0.1	0.4	0.4	0.8
mical	PH.			7.0	7.4	7.7	7.6
Chei	Iron as Fe Total			0.05	0.05	0.05	0.05
	Ferrous						
	Manganese as Mn.					-skitotike ribe nitrogen	10. 188
	Qualitative-			Trace	Trace	Trace	Nil
	Nitrite nitrogen			Present	Trace	Present	Trace
	Sulphate Phosphate					Trace	Trace
				Trace	Trace	Trace	Trace
	Toxic substances Electrical conductivity ((Reciprocal					2 0102-02
	megohms/Cm³ at 25°C			1810	1230	1300	1190

Microscopical Examination

Anabaena, Monas Amorphous matter

Amorphous matter

Amorphous matter

From: The Villupuram Municipality, Villupuram District & HUD.

Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I.

TNR-1902

(carred)	4/1				TNR-1902	
ate of Re	llection: 17.10.2023 eceipt : 18.10.2023 s per label	Tap in Power House Road	Tap in Mariamman Kovil Street	Tap in Vanakkara Kuppusami Theru	Water from 1 st tap after Ezhil Nagar OHT	Tap in Ezhi Nagar 1 st Street
05	Total colonies per ml on agar at 37°C			7913740	10	po letoT
ogical	MPN of Coliform bacteria per 100 ml.	0 0	0	O.Imooz w	0	er store 0 = E
Bacteriological Examination	Rapid Test for E.Coli-I Results of vibrio test				Hilo3 3 not be	T Rights Billion
sime	Colour				Colourless	Colour
					5 edebly	
Physical Examination	Turbidity (Units)					bidutul 8 K
Ä	Smell				None	Hema 5
000	Total Solids				2200	t fetoT
	Carbonate hardness as CaCo₃			100	476	Cubo
	Non- Carbonate hardness as CaCo ₃			(6060 a)	196	
	Total hardness as CaCo₃				672	
					564	isio!
	Chloride as Chlorine				e as Uniorine	to reliate
livi	Ammoniacal nitrogen				nagorim lassin	iommA
	Albuminoid nitrogen				0.40	mudiA .
	Oxygen absorbed (Tidy's test)			0.0	3.0	Oxyg:
8/1).	Nitrate-nitrogen				0	MANUE S
m m	Acidity Phenolphthalein			risida	Phenolyth	ydbbA 3
Examination (in mg/1).	as CaCO ₃ Methyl Orange			Rane 10 A		20 m
mina	Fluoride as Fluorine				0.4	
al Exa	PH.				7.1	2
Chemical E	Iron as Fe Total				0.05	
៦	Ferrous				10101011	* le
	Manganese as Mn.				Herrous angse as Adri,	1 G =
	Qualitative-	1			Trace	Cupilli
	Nitrite nitrogen				Marked	straint - A
	Sulphate				971	Ague
	Phosphate			10.00	Trace	recilio.
	Toxic substances				250Faledae	SUST TO SERVICE STATE OF THE S
	Electrical conductivity (Reciprocal megohms/Cm³ at 25°C)		Lacial S	lezorgia	3140	1343

Microscopical Examination

RESULTS OF EXAMINATION OF SAMPLES OF WATER From: TheVillupuram Municipality, Villupuram District& HUD. Collected by: Thiru.K. Mohammed Sheik Dawood, H.I Gr. I.

Date of Re	llection: 17.10.2023 eceipt: 18.10.2023 s per label	Tap in Ezhil Nagar 2 nd Street	Tap in Ezhil Nagar Cross Street	Тар Ін		17.10.2	Maximum permissible limit for drinking water as per BIS 10500/2012
	. 5700			3	VE in was no in	cclonies per n	1616T 20
Te u	Total colonies per ml on agar at 37°C	0	0	i i in	eterla per 100	ed amobile 2 to	149M 0
ologic	MPN of Coliform bacteria per 100 ml.	0	U		1-1	Test for Exp	absent
Bacteriological Examination	Rapid Test for E.Coli-I Results of vibrio test		1.0		1	s of vibrio tes	Colourless
	Colour 285138015Q						5
Physical Examination	Turbidity (Units)					(erints) ys	None
Pr	Smell SmoW	LE folige					2000
	Total Solids				7	ablio	-
	Carbonate hardness as CaCo₃				235 Ca Cog	sate hardness	Cirbo
	Non- Carbonate hardness as CaCo ₃				doles as CaCop	Schonz e hav	600
	Total hardness as CaCo ₃				- 107	S to combine	1000
	Chloride as Chlorine						Nil
	Ammoniacal nitrogen					gradin busins	Nil
	Albuminoid nitrogen					togo din bioni	UUDA.
					OVER 1 COL	1) bedrozds n	10.2
Chemical Examination (in mg/1).	Oxygen absorbed (Tidy's test) Nitrate-nitrogen Acidity Phenolphthalein				motivitialein Mei syl Örange		600
tion (i	as CaCO ₃ Methyl Orange					egicolft as al	1.5
minat	Fluoride as Fluorine	1				DELTASTI AND	6.5-8.5
al Exa	PH.						1.0
nemic	Iron as Fe Total					land at	Nil
ō	Ferrous					2000003	0.3
	Manganese as Mn.				man de	-9/10	Table
	Qualitative-					- togodit	Trace
	Nitrite nitrogen						Presen
	Sulphate Phosphate					oje	Trace
	Toxic substances					sistances	
	Electrical conductivity (Reciproca megohms/Cm³ at 25°C)				lazonjosA) y	at conductivit at as ^f eether	degen ;