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ilac-MRA SLAB ACCREDITED
ISO/IEC 17025
TL 004 – 01/05

TEST REPORT

Report No: SS 2405873

Report to :

Mr. M.A. Nalaka Nishan
Public Health Inspector,
M.O.H. Office,
Ruwanwella.

Issued by :

Chemical and Microbiological Laboratory
Industrial Technology Institute

2024/05/30

2024/05/30

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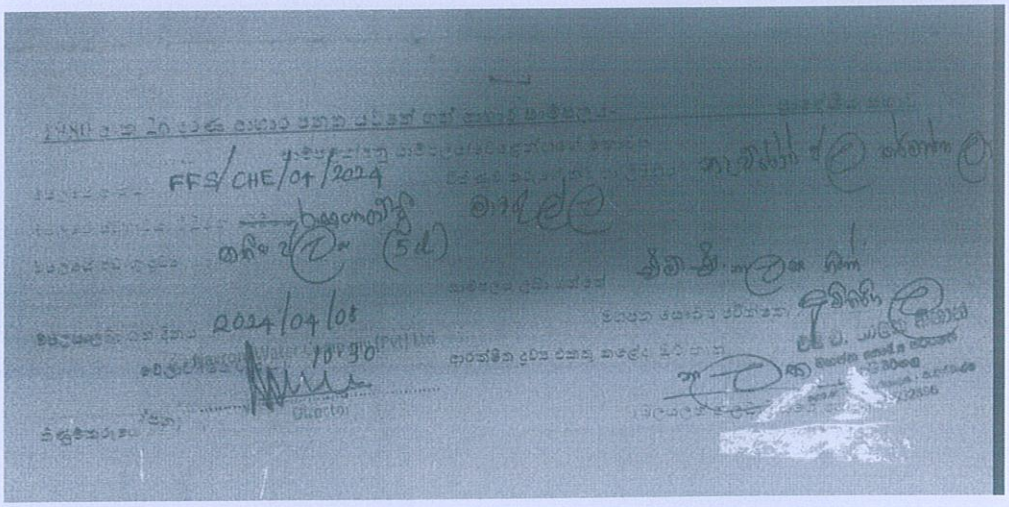
2024/05/30

Report No. SS 2405873

Customer : Mr. M.A. Nalaka Nishan Public Health Inspector, M.O.H. Office, Ruwanwella.	**Test Item : Raw Water** **Service Requested :** Analysis for parameters given in SLS 614: 2013 specification for Potable Water (First Revision) as in customer's letter received on 2024/04/08 except Odour & Taste.
Descriptions : 1. Approximately 5 litres of slightly turbid water contained in a plastic bottle. 2. Approximately 6 litres of clear colourless water contained in a plastic bottle & five glass bottles.	**Identification of Test Item :** **Labels :** attached below **Date of Receipt of Test Item :** 2024/04/08

Labels : 1. FFS/CHF/04/2024
2. FFS/CHF/03/2024, FFS/CHF/05/2024 & FS/CHF/02/2024



Test Dates : 2024/04/08 - 2024/05/28

2024/05/30

ISO/IEC 17025
TL 004 – 01/05

Test Results :

Test	Unit	Method	Results	L.O.D	E.U.% (k=2)
# Colour (filtered)	HzU	APHA 2120 B	Not detected	5	-
Turbidity	NTU	APHA 2130 B	2.4	-	11.1
pH at 25 ^{0}C	-	APHA 4500 – H^+B	8.6	-	1.0
Chloride (as Cl^-)	mg/L	APHA 4500 – Cl^- B	3.5	-	6.7
Total Alkalinity (as $CaCO_3$)	mg/L	APHA 2320 B	19.8	-	12.0
# Free Ammonia (as NH_3)	mg/L	SLS 614:2013, Appendix A	0.02	-	-
# Albuminoid Ammonia (as NH_3)	mg/L		Not detected	0.02	-
Nitrate (as NO_3^-)	mg/L	CML/MM/02/02/034/V1.2	Not detected	0.9	-
Nitrite (as NO_2^-)	mg/L	APHA 4500-NO_2^-B	0.04	-	13.0
Fluoride (as F^-)	mg/L	APHA 4110 B	Not detected	0.1	-
Total Phosphates (as PO_4^{3-})	mg/L	APHA 4500 – PB & C	Not detected	1.0	-
Total Dissolved Solids at 180 ^{0}C	mg/L	APHA 2540 C	26	-	13
Total Hardness (as $CaCO_3$)	mg/L	APHA 2340 C	11.9	-	8.0
Sulfate (as SO_4^{2-})	mg/L	Modified APHA 4500 SO_4^{2-}E	2.5	-	6.2
Calcium (as Ca^{2+})	mg/L	APHA 3500 Ca - B	2.4	-	8.8
# Magnesium (as Mg^{2+})	mg/L	APHA 3500 Mg- B	1.4	-	-
# Cyanide (as CN^-)	mg/L	CML 18	Not detected	0.05	-
Total Iron (as Fe)	mg/L	RAL/MM/02/01/004	0.06	-	5.3
Sodium (as Na)	mg/L		3.0	-	5.5
Copper (as Cu)	mg/L		Not detected	0.01	-
Manganese (as Mn)	mg/L		0.01	-	1.8
Zinc (as Zn)	mg/L		Not detected	0.01	-
Aluminium (as Al)	mg/L		0.07	-	4.7
Arsenic (as As)	mg/L		Not detected	0.001	-
Cadmium (as Cd)	mg/L		Not detected	0.001	-
Lead (as Pb)	mg/L		Not detected	0.001	-
Nickel (as Ni)	mg/L		Not detected	0.001	-
Mercury (as Hg)	mg/L		Not detected	0.001	-
Selenium (as Se)	mg/L		Not detected	0.001	-
Chromium (as Cr)	mg/L		Not detected	0.01	-
Chemical Oxygen Demand (COD)	mgO_2/L	APHA 5220 D	Not detected	5	-
Phenolic Compounds (as C_6H_5OH)	mg/L	APHA 5530 B & D	Not detected	0.1	-
Oil & Greases	mg/L	APHA 5520 B	Not detected	1	-

2024/05/30

Test Results:

Test Method - RAL/MM/01/01/001			
Test	**Unit**	**Results**	**Limit of Determination**
α -HCH	µg/L	Not detected	0.08
β - HCH	µg/L	Not detected	0.08
γ - HCH (Lindane)	µg/L	Not detected	0.08
δ - HCH	µg/L	Not detected	0.08
Aldrin	µg/L	Not detected	0.08
Dieldrin	µg/L	Not detected	0.08
Heptachlor	µg/L	Not detected	0.08
Heptachlorepoxide	µg/L	Not detected	0.08
Endrin	µg/L	Not detected	0.08
Endrin aldehyde	µg/L	Not detected	0.08
Endosulfan I	µg/L	Not detected	0.08
Endosulfan II	µg/L	Not detected	0.08
Endosulfan Sulphate	µg/L	Not detected	0.08
p.p' DDE	µg/L	Not detected	0.08
p.p' DDT	µg/L	Not detected	0.08
o,p' DDD	µg/L	Not detected	0.08
p.p' DDD	µg/L	Not detected	0.08
HCB	µg/L	Not detected	0.08
Trifluralin	µg/L	Not detected	0.08
# Chlorothalonil	µg/L	Not detected	2.0
# Propanil	µg/L	Not detected	2.0

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Test Results :

Test	Unit	Method	Results	Limit of determination
Metribuzin	µg/L	RAL /MM /01/01/003	Not detected	5.0
Hexaconazole	µg/L		Not detected	5.0
Tebuconazole	µg/L		Not detected	5.0
BPMC	µg/L		Not detected	5.0
Diazinon	µg/L		Not detected	5.0
Thiamethoxam	µg/L		Not detected	5.0
Bispyribac Sodium	µg/L		Not detected	5.0
Carbofuran	µg/L		Not detected	5.0
Fipronil	µg/L		Not detected	5.0
Imidacloprid	µg/L		Not detected	5.0
Quinalfos	µg/L		Not detected	5.0
Dimethoate	µg/L		Not detected	5.0
Diuron	µg/L		Not detected	5.0
Captan	µg/L		Not detected	5.0
Methomyl	µg/L		Not detected	5.0
Tricyclazole	µg/L		Not detected	5.0
Isoprothiolane	µg/L		Not detected	5.0
Fenamiphos	µg/L		Not detected	5.0
Flutolanil	µg/L		Not detected	5.0
Triazophos	µg/L		Not detected	5.0
Glyphosate	µg/L		Not detected	5.0
AMPA	µg/L		Not detected	5.0
Glufosinate Ammonium	µg/L		Not detected	5.0
# Profenophos	µg/L		Not detected	10.0
# Pirimiphos methyl	µg/L		Not detected	10.0
# Phenthoate	µg/L		Not detected	10.0
# Fenitrothion	µg/L		Not detected	10.0
# Malathion	µg/L		Not detected	10.0
# Fenthion	µg/L		Not detected	10.0

APHA – Standard Methods for the examination of water and waste water APHA, AWWA, WEF, 2017 23rd edition
CML – Chemical & Microbiological Laboratory # Non accredited tests RAL - Residue Analysis Laboratory
E. U - Expanded Uncertainty L. O. D – Limit of determination SLS - Sri Lanka Standards

Statement of Conformity :

The test item of water submitted by the customer to ITI on 2024/04/08 conforms to the requirements of SLS 614: 2013 for all the parameter tested except pH & Turbidity.

Analyses were carried out by Ms. W.R.D. Weerasooriya, Ms. M. Peiris, Ms. A.N. Kodippili – Assistant Research Technologists, Ms. T. Atukorala - Assistant Research Technologist under supervision of Ms. W.R.D Weerasooriya - Assistant Research Technologist, Mr. D.T.K. Bodaragama & Ms. H. P. N. H. Pathirana – Assistant Research Technologists under supervision of Ms. K. De Alwis – Senior Research Technologist.
Analysis of metals and pesticide residues were subcontracted to the Residue Analysis Laboratory of ITI.

Mahatantila

Authorized Signatory

Dr. Kushani Mahatantila
D.Sc. (Japan), M.Phil., B.Sc.
Senior Research Scientist
Chemical and Microbiological Laboratory
Industrial Technology Institute

2024/05/30
/dpc

Enclosure : Sri Lanka Specification for Potable Water (First Revision) SLS 614 : 2013

Enclosure : Sri Lanka Specification for Potable Water (First Revision) SLS 614: 2013

Table 1 - Physical and Organoleptic Requirements

Characteristic	Requirements
Colour	15 Hazen units (max)
Odour	Unobjectionable
Taste	Unobjectionable
Turbidity	2 NTU (max)
pH at $25^0C \pm 2^0C$	6.5 - 8.5

Table 2 - Chemical Requirements

Characteristic		*Requirement (Maximum)*
Chloride	(as Cl)	250 mg/l
Total Alkalinity	(as $CaCO_3$)	200 mg/l
Free Residual Chlorine		1.0 mg/l
Free Ammonia	(as NH_3)	0.06 mg/l
Albuminoid Ammonia	(as NH_3)	0.15 mg/l
Nitrate	(as NO^-_3)	50 mg/l
Nitrite	(as NO^-_2)	3 mg/l
Fluoride	(as F)	1.0 mg/l
Total Phosphates	(as PO_4)	2.0 mg/l
Total Dissolved Solids		500 mg/l
Total Hardness	(as $CaCO_3$)	250 mg/l
Total Iron	(as Fe) [c]	0.3 mg/l
Sulphate	(as SO_4)	250 mg/l
Anionic detergent	(as MBAS)	0.2 mg/l
Phenolic compounds	(as C_6H_5OH)	0.001 mg/l
Oil & Grease		0.2 mg/l
Calcium	(as Ca)	100 mg/l
Magnesium	(as Mg) [d]	30 mg/l
Copper	(as Cu)	1.0 mg/l
Manganese	(as Mn) [c]	0.1 mg/l
Zinc	(as Zn)	3.0 mg/l
Aluminium	(as Al)	0.2 mg/l
Chemical Oxygen Demand (COD)		10 mg/l
Nickel	(as Ni)	0.02 mg/l
Sodium	(as Na)	200 mg/l

Table 3 - Toxic substances

Characteristic		Maximum permissible
Arsenic	(as As)	0.01 mg/l
Cadmium	(as Cd)	0.003 mg/l
Cyanide	(as CN)	0.05 mg/l
Lead	(as Pb)	0.01 mg/l
Mercury	(as Total Hg)	0.001 mg/l
Selenium	(as Se)	0.01 mg/l
Chromium	(as Cr)	0.05 mg/l

Tests for Pesticides residues may not be necessary for routine analysis and carried out only if required or requested.

Table 4 - Microbiological requirements

Source of Water	Total Coliform count / 100 ml (MPN)	*E.coli* / 100 ml (MPN)
Public water supply (Municipal supply and water Board supply)	03	Should be Absent
Individual or small community supply (well and Tube well)	10	Should be Absent

[c] Total concentration of Manganese (as Mn) and Iron (as Fe) shall not exceed 0.3 mg/l

[d] Not more than 30 mg/l, if there is 250 mg/l sulphate. If there is less sulphate, magnesium upto 150 mg/l may be allowed.