

Laboratory Eco Services India Private Limited (Laboratory Division), 1/134,
Dhanakotiraja Street, Sundar Nagar, Ekkaduthangal, Guindy,
Chennai, Tamil Nadu

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5664 (in lieu of T-1962 & T-1963) **Page 1 of 18**

Validity 02.05.2017 to 01.05.2019 **Last Amended on** 18.05.2017

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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BIOLOGICAL TESTING

I	WATER			
1.	Drinking Water	Standard Plate Count	IS 1622 - 1981(R-2014)	≥ 1 CFU / mL
		Total coliforms	IS 1622 - 1981(R-2014) APHA 22 nd Edition	(< 2 MPN to 1600 MPN)/100 mL (< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal coliforms	IS 1622 - 1981(R-2014) APHA 22 nd Edition	(< 2 MPN to 1600 MPN)/100 mL (< 1.8 MPN to > 1600 MPN)/100 mL
		E.coli / Thermotolerant Bacteria	IS 1622 - 1981(R-2014) APHA 22 nd Edition	(< 2 MPN to 1600 MPN)/100 mL (< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal streptococci	IS 1622 - 1981(R-2014)	(< 2 MPN to 1600 MPN)/100 mL
2.	Ground Water	Standard Plate Count	IS 1622 - 1981(R-2014)	≥ 1 CFU / mL
		Total coliforms	IS 1622 - 1981(R-2014) APHA 22 nd Edition	(< 2 MPN to 1600 MPN)/100 mL (< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal coliforms	IS 1622 - 1981(R-2014) APHA 22 nd Edition	(< 2 MPN to 1600 MPN)/100 mL (< 1.8 MPN to > 1600 MPN)/100 mL
		E.coli / Thermotolerant Bacteria	IS 1622 - 1981(R-2014) APHA 22 nd Edition	(< 2 MPN to 1600 MPN)/100 mL (< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal streptococci	IS 1622 - 1981(R-2014)	(< 2 MPN to 1600 MPN)/100 mL

Soundira Pandian. K
Convenor

N. Venkateswaran
Program Director

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3.	Packaged Drinking Water	Total Viable Colony Count @ 37 C for 24 hrs	IS 5402 - 2012	≥ 1 CFU / mL
		Total Viable Colony Count @ 22 C for 72 hrs	IS 5402 - 2012	≥ 1 CFU / mL
		E.coli	IS 15185 - 2016	Qualitative (Present/ Absent/ 250 mL)
		Coliforms	IS 15185 - 2016	Qualitative (Present/ Absent/ 250 mL)
4.	Packaged Natural Mineral Water	E.coli	IS 15185 - 2016	Qualitative (Present/ Absent/ 250 mL)
		Coliforms	IS 15185 - 2016	Qualitative (Present/ Absent/ 250 mL)
5.	Water for Swimming Pool	Standard Plate Count	IS 1622 - 1981(R-2014)	≥ 1 CFU / mL
		Coliforms	IS 1622 - 1981(R-2014)	(< 2 MPN to 1600 MPN)/100 mL
6.	Water for food Industry	Standard Plate Count	IS 1622 - 1981(R-2014)	≥ 1 CFU / mL
		Coliforms	IS 1622 - 1981(R-2014)	(< 2 MPN to 1600 MPN)/100 mL
II	ENVIRONMENT AND POLLUTION			
1.	Waste water, Effluents	Heterotropic Count	APHA 22 nd Edition - 9215 B	≥ 1 CFU / mL
		Total Coliform	APHA 22 nd Edition - 9221 B	(< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal Coliform	APHA 22 nd Edition - 9221 E	(< 1.8 MPN to > 1600 MPN)/100 mL
		E.coli / Thermo tolerant Bacteria	APHA 22 nd Edition - 9221 F	(< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal streptococci	APHA 22 nd Edition - 9230 B	(< 1.8 MPN to > 1600 MPN)/100 mL
2.	Sewage	Heterotropic Count	APHA 22 nd Edition - 9215 B	≥ 1 CFU / mL
		Total Coliform	APHA 22 nd Edition - 9221 B	(< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal Coliform	APHA 22 nd Edition - 9221 E	(< 1.8 MPN to > 1600 MPN)/100 mL
		E.coli / Thermo tolerant Bacteria	APHA 22 nd Edition - 9221 F	(< 1.8 MPN to > 1600 MPN)/100 mL
		Faecal streptococci	APHA 22 nd Edition - 9230 B	(< 1.8 MPN to > 1600 MPN)/100 mL

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CHEMICAL TESTING

I	ATMOSPHERIC POLLUTION			
1.	Ambient Air	Sulphur dioxide (SO ₂)	IS 5182 (Part 2) - 2001 (Reaff.2012)	8 µg/m ³ to 500 µg/m ³
		Nitrogen dioxide (NO ₂)	IS 5182 (Part 6) - 2006 (Reaff.2012)	6 µg/m ³ to 750 µg/m ³
		Particulate Matter (Size less than 10µm)/ PM ₁₀	IS 5182 (Part 23) - 2006 (Reaff.2012)	5 µg/m ³ to 1000 µg/m ³
		Particulate Matter (Size less than 2.5 µm) or PM _{2.5}	ESIPL/SOP/C-AA/03 Issue No/ Date: 01/05.11.2014	8 µg/m ³ to 1000 µg/m ³
		Ozone (O ₃)	IS 5182 (Part IX) - 1974 (Reaff. 2014)	5 µg/m ³ to 400 µg/m ³
		Carbon monoxide	NIOSH-6604, 1996	1.14 mg/m ³ to 20 mg/m ³
		Ammonia as NH ₃	ESIPL/SOP/C-AA/07 Issue No/ Date: 01/05.11.2014	5 µg/ m ³ to 500 µg/ m ³
		Dust Fall	IS 5182 (Part 1) - 2006	(0.3 g/m ² to 6.0 g/m ²)/month
2.	Work Environment and Indoor Air Quality	Total Aerosol Mass	NIOSH-0500, 1994	1 mg/m ³ to 25 mg/m ³
		Respirable Aerosol Mass	NIOSH-0600, 1998	0.5 mg/ m ³ to 25 mg/ m ³
		Illumination	ESIPL/SOP/C-IA/10 Issue No/ Date: 01/05.11.2014	1 Lux to 10,500 Lux
		Carbon monoxide	NIOSH-6604, 1996	1.14 mg/m ³ to 100 mg/m ³
		Dew Point	ESIPL/SOP/C-IA/13 Issue No/ Date: 01/05.11.2014	-78.7°C to +50°C
		Velocity	ESIPL/SOP/C-IA/11 Issue No/ Date:	0.4 m/s to 30 m/s

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		Temperature	01/05.11.2014 ESIPL/SOP/C-IA/09 Issue No/ Date: 01/05.11.2014	10 °C to 50°C
		Humidity	ESIPL/SOP/C-IA/12 Issue No/ Date: 01/05.11.2014	10 % to 95 %
		Nitric Oxide & /Nitrogen dioxide	NIOSH-6014, 1994	3.6 mg/m ³ to 22 mg/m ³
		Oxygen %	NIOSH-6601, 1994	1 % to 22 %
		Formaldehyde	NIOSH-3500, 1994	1.05 mg/m ³ to 7.5 mg/m ³
		Ammonia	NIOSH-6015, 1994	1.5 mg/m ³ to 100 mg/m ³
3.	Ambient Noise Levels	Leq, L min, L Max, SPL	IS 9989: 1981(Reaff.2008)	30 dB(A) to 130 dB(A)
4.	Source Noise Levels	Leq, L min, L Max, SPL	IS 9989: 1981(Reaff.2008)	30 dB(A) to 130 dB(A)
5.	Stack Emission	Particulate Matter	IS 11255 (Part 1) -1985 (Reaff . 2014)	5 mg/Nm ³ to 300 mg/Nm ³
		Sulphur dioxide	IS11255(Part 2) - 1985(Reaff.2014)	5 mg/Nm ³ to 400 mg/Nm ³
		Nitrogen Oxides	IS 11255 (Part 7) (Reaff.2012)	4 mg/Nm ³ to 400 mg/Nm ³
		Ammonia	IS 11255 (Part 6) -1999 (Reaff.2014)	5 mg/Nm ³ to 100 mg/Nm ³
		Flow Rate	IS 11255 (Part 3) -1985 (Reaff.2014)	10 Nm ³ /Hr to 5000 Nm ³ /Hr
		Velocity		1 m/s to 60 m/s
		Temperature		27 °C to 800°C
		Test for gases by Orsat method :	IS 13270 -1992 (Reaff.2014)	
		CO ₂		0.2 % to 12%
		CO		0.2 % to 3%
		O ₂		1 % to 22%

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II	WATER			
1.	Surface Water, Ground Water, Swimming Pool Water and Irrigation water	Colour	IS 3025: Part 4 - 1983 (Reaff.2006) (Platinum Cobalt Method)	5 Hazen to 500 Hazen
		Odour	IS 3025 Part 5 - 1983 (Reaff; 2002)	Qualitative (Objectionable/ Unobjectionable)
		Temperature	IS 3025 : Part 9 -1983 (Reaff.2006)	20 °C to 50°C
		Turbidity	IS 3025 : Part 10 - 1884 (Reaff.2002) Nephelometric Method	1 NTU to 400 NTU
		pH@25°C	IS 3025 : Part 11 - 1983 (Reaff.2013) (Electrometric Method)	2 to 12
		Conductivity at 25°C	IS 3025 : Part 14-1983 (Reaff.2013)	5 µmhos/cm to 50,000 µmhos/cm
		Total Solids	IS 3025 : Part 15- 1984 (Reaff.2009)	5 mg/l to 10,000 mg/l
		Total Dissolved Solids	IS 3025 : Part 16 - 1984 (Reaff.2009)	2 mg/l to 10,000 mg/l
		Total Suspended Solids	IS 3025 : Part 17- 1984 (Reaff.2012)	5 mg/l to 1000 mg/l
		Volatile Solids	IS 3025 : Part 18- 1984 (Reaff.2006)	5 mg/l to 1000 mg/l
		Fixed Solids	IS 3025 : Part 18- 1984 (Reaff.2006)	5 mg/l to 10,000 mg/l
		Total Hardness as CaCO ₃	IS 3025 : Part 21- 2009 (EDTA- METHOD)	2 mg/l to 5,000 mg/l
		Acidity as CaCO ₃	IS 3025 : Part 22- 1986 (Reaff.2009)	2 mg/l to 1,000 mg/l
		Alkalinity as CaCO ₃	IS 3025 : Part 23- 1986 (Reaff.2009)	2 mg/l to 1,000 mg/l

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		Sulphate as SO ₄	IS 3025 : Part 24 -1986 (Reaff.1992) (Turbidity Method)	2 mg/l to 2,000 mg/l
		Chlorine Residual	IS 3025 : Part 26-1986 (Reaff.2009) (Iodometric method)	0.5 mg/l to 100 mg/l
		Sulphites SO ₃	IS 3025 : Part 28- 1986 (Reaff.2009)	2 mg/ to 100 mg/l
		Sulphide S ²⁻	IS 3025 : Part 29- 1986 (Reaff.2009) (Methylene blue Method)	1 mg/l to 20 mg/l
		Phosphorous as P	IS 3025 : Part 31- 1988 (Reaff.2009) (Stannous Chloride Method)	0.01 mg/l to 50 mg/l
		Chloride as Cl ⁻	IS 3025 : Part 32- 1988 (Reaff.2009) (Argentometric Method)	1 mg/l to 2,500 mg/l
		Ammonical Nitrogen NH ₃ N	IS 3025: Part 34-1988 (Reaff.2009) Titrimetric Method,	1 mg/l to 500 mg/l
		Free Ammonia NH ₃	IS 3025: Part 34- (Reaff : 2009), Titrimetric Method	1 mg/l to 200 mg/l
		Nitrite Nitrogen NO ₂ N	IS 3025 : Part 34- 1988 (Reaff.2009)	0.02 mg/l to 100 mg/l
		Nitrate Nitrogen as NO ₃	IS 3025: Part 34 - 1988 (Reaff:2003)Devarda's alloy reduction method	1.0 mg/l to 100 mg/l
		Total Kjeldal Nitrogen	IS 3025 : Part 34 - 1988 (Reaff:2003)	1.0 mg/l to 200 mg/l
		Silica as SiO ₂	IS 3025 : Part 35 - 1988 (Reaff.2009) Heteropoly blue Method	0.1 mg/l to 100 mg/l

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		Dissolved Oxygen O ₂	IS 3025 : Part 38- 1989 (Reaff.2009) Titrimetric Method	1 mg/l to 8 mg/l
		Oil and Grease	IS 3025 : Part 39- 1991 (Reaff.2003) Partition Gravimetric Method	2 mg/l to 500 mg/l
		Calcium as Ca	IS 3025 : Part 40 - 1991 (Reaff.2009) EDTA-Titrimetric Method	1 mg/l to 2,000 mg/l
		Copper as Cu	IS 3025 : Part 42- 1992 (Reaff.2009) Neocuproine Method	0.3 mg/l to 25 mg/l
		Phenols as C ₆ H ₅ OH	IS 3025: Part 4 - 1992 (Reaff.2006) (4-Aminoantipyrine Method without Chloroform Extraction)	0.1 mg/l to 10 mg/l
		BOD @ 27°C for 3 days	IS 3025:Part 44- 1993 (Reaff.2009)	2 mg/l to 200 mg/l
		BOD @ 20°C for 5 days	APHA 22 nd Edn 5210-B, 2012	2 mg/l to 200 mg/l
		Chemical oxygen Demand	IS 3025 : Part 58- 2006 (Reaff 2012)	4 mg/l to 2000 mg/l
		Sodium as Na	IS 3025 : Part 45 (- 1993 Reaff.2009) (Flame Photometry Method	1 mg/l to 1000 mg/l
		Sodium Absorption Ratio (SAR)	IS 11624 - 1986 (Reaff: 2001)	0.1 to 50
		Residual Sodium Carbonate (RSC)	IS 11624 - 1986 (Reaff: 2001)	-5 meq/l to +5 meq/l
		Percent Sodium	ES IPL - SOP/C-W/50 Issue No/ Date: 01/ 05.11.2014	1 % to 80%

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		Potassium as K	IS 3025 : Part 45 1993 (Reaff.2009) (Flame Photometry Method)	1 mg/l to 1000 mg/l
		Magnesium as Mg	IS 3025: Part 46 1994 (Reaff.2009) (Volumetric Method using EDTA)	1 mg/l to 2,000 mg/l
		Carbonate as CO ₃	IS 3025: Part 51-2001 (Reaff.2012)	2 mg/l to 500 mg/l
		Bicarbonate as HCO ₃	IS 3025: Part 51-2001 (Reaff.2012)	10 mg/l to 1000 mg/l
		Manganese as Mn	IS3025:Part 59- 2006 (Reaff 2012) Formaldoxime Photometric Method	0.5 mg/l to 20 mg/l
		Total Chromium as Cr	IS 3025: Part 52-2003 (Reaff.2009) (Diphenylcarbazide Method)	0.1 mg/l to 20 mg/l
		Chromium as Cr ⁶⁺	IS 3025: Part 52-2003 (Reaff.2009) (Diphenylcarbazide Method)	0.1 mg/l to 20 mg/l
		Iron as Fe	IS 3025:Part 53 -2003 (Reaff.2009) (1/10Phenanthroline Method)	0.1 mg/l to 50 mg/l
		Nickel as Ni	IS 3025:Part 54-2003 (Reaff.2009) (Dimethylglyoxime Method)	0.1 mg/l to 5 mg/l
		Aluminium as Al	IS 3025:Part 55 -2003 (Reaff.2009) (Erichrome Cyanine R Method)	0.1 mg/l to 20 mg/l
		Boron as B	IS 3025: Part 57 (Colorimetric curcumin method)	0.1 mg/l to 20 mg/l

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		Fluoride as F ⁻	IS 3025 : Part 60 - 2008 (Reaff 2013)	0.1 mg/l to 25 mg/l
2.	Drinking water	Colour	IS 3025 : Part 4 -1983 (Reaff.2002) (Platinum Cobalt Method)	1 Hazen to 50 Hazen
		Odour	IS 3025: Part 5- 1983 (Reaff.2002)	Objectionable/ Unobjectionable
		Turbidity	IS 3025:Part 10- 1984 (Reaff.2002)	1 NTU to 400 NTU
		pH @ 25°C	IS 3025:Part 11- 1983 (Reaff.2002)	4.0 to 9.0
		Taste	IS 3025(Part 8):1984	Agreeable/ Disagreeable
		Total Dissolved Solids	IS 3025:Part 16- 1984 (Reaff.2002)	5 mg/l to 2000 mg/l
		Total Hardness as CaCO ₃	IS 3025 : Part 21 (Reaff.2002) EDTA -Method	2 mg/l to 5000 mg/l
		Total Alkalinity as CaCO ₃	IS 3025 : Part 23 (Reaff.2003)	2 mg/l to 1000 mg/l
		Sulphate as SO ₄ ²⁻	IS 3025 : Part 24 - 1986 (Reaff.2003)(Turbidity Meter)	2 mg/l to 2000 mg/l
		Total Residual Chlorine	IS 3025 : Part 26 1986 (Reaff.2003)(Iodometric Method)	0.1 mg/l to 2.0 mg/l
		Sulphide as S ²⁻	IS 3025 : Part 29 (Reaff.2003) (Methylene Blue Method)	0.1 mg/l to 1.0 mg/l
		Chloride as Cl	IS 3025 : Part 32 1982 (Reaff.2003) (Argentometric Method)	1 mg/l to 2000 mg/l
		Calcium as Ca	IS 3025 : Part 40-1991 (Reaff.2003) EDTA-Titrimetric Method	1 mg/l to 1000 mg/l

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		Ammonia as NH ₃	IS 3025: Part 34 -1988 (Reaff.2009) Titrimetric Method	1 mg/l to 200 mg/l
		Copper as Cu	IS 3025 : Part 42- 1992 (Reaff.2009) Neocuproine Method	0.3 mg/l to 2.5 mg/l
		Fluoride as F	IS 3025 Part 60 - 2008 (Reaff 2013)	0.1 mg/l to 5 mg/l
		Nitrate Nitrogen as NO ₃	IS 3025: Part 34 (Reaff.2003) Devarda's alloy reduction method	0.5 mg/l to 25 mg/l
		Phenols as C ₆ H ₅ OH	IS 3025 : Part 43-1992 (Reaff.2003) (4-Aminoantipyrine Method without Chloroform Extraction)	0.5 mg/l to 1 mg/l
		Iron as Fe	IS 3025:Part 53 -2003 (Reaff.2009) (1/10Phenanthroline Method)	0.1 mg/l to 50 mg/l
		Nickel as Ni	IS 3025 : Part 54-2003 (Reaff.2009) (Dimethyl glyoxime Method)	0.1 mg/l to 5 mg/l
		Magnesium as Mg	IS 3025 : Part 46 - 1994 (Reaff2009) Volumetric Method	1 mg/l to 2000 mg/l
		Total Chromium as Cr	IS 3025 : Part 52 -2003 (Reaff.2009) (Diphenyl carbazide Method)	0.1 mg/l to 20 mg/l
		Aluminum as Al	IS 3025:Part 55 -2003 (Reaff.2009) (Erichrome Cyanine R Method)	0.1 mg/l to 20 mg/l

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		Boron as B	IS 3025 : Part 57- 2006 (Reaff 2010)(Colorimetric Curcumas Method)	0.1 mg/l to 20 mg/l
		Manganese as Mn	IS 3025 : Part 59- 2006 (Reaff 2012) Formaldoxine Photometric Method)	0.5 mg/l to 20 mg/l
3.	Construction water	pH@25°C	IS 3025 : Part 11 -1984 (Reaff.2012)	2 to 12
		Suspended Matter	IS 3025 : Part 17 1982 (Reaff.2006)	1 mg/l to 5000 mg/l
		Organic Solids	IS 3025 : Part 18 1984 (Reaff.2006)	1 mg/l to 500 mg/l
		Inorganic Solids	IS 3025 : Part 18 1984 (Reaff.2006)	1 mg/l to 5000 mg/l
		Water Neutralization a. To neutralize 100 ml of water using Phenolphthalein Indicator (Acidity as CaCO ₃)	IS:3025 (Part 22 &23)-1986 (Reaff.2009)	0.50 ml to 20 ml
		b. To neutralize 100 ml of water using - mixed indicator (Alkalinity as CaCO ₃)	IS:3025 (Part 22 &23)-1986 (Reaff.2009)	0.50 ml to 30 ml
		Sulphate as SO ₄	IS 3025 : Part 24 1986 (Reaff.2006) Turbidity Method	1 mg/l to 1000 mg/l
		Chloride as Cl	IS 3025 : Part 32 1988 (Reaff.2003) (Argentometric Method)	1 mg/l to 2000 mg/l
4.	Reagent Grade Water	pH@25°C	IS 3025 : Part 11 -1984 (Reaff.2002)	5 to 8.5
		Specific Conductance 25°C	IS 3025 : Part 14 -1984 (Reaff.2006)	1 µmhos/cm to 100 µmhos/cm

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		Total Solids/Non Volatile Residue at 105°C	IS 3025 : Part 18 -1984 (Reaff.2006)	1 mg/l to 100 mg/l
		Silica	IS 3025 : Part 35- 1989 (Reaff.2003)	0.1 mg/l to 100 mg/l
		Colour Retention of KMnO ₄	Annex A of IS 1070-1992 (Reaff.2008)	Qualitative (Pass/ Fail)
5.	Industrial Water	pH @ 25° C	IS 3025 : Part 11 -1984 (Reaff.2002)	2 to 12
		Specific Conductance 25oC	IS 3025 : Part 14 -1984 (Reaff.2006)	1 µmhos/cm to 1000 µmhos/cm
		Total Dissolved Solids	IS 3025 : Part 16 - 1984 (Reaff.2009)	5 mg/l to 500 mg/l
		Total Hardness as CaCO ₃	IS 3025:Part 21 (Reaff.2002)	1 mg/l to 1000 mg/l
		Caustic Alkalinity as CaCO ₃	IS: 3025 : Part 23 -1986 (Reaff2005)	1 mg/l to 500 mg/l
		Total Alkalinity as CaCO ₃	IS: 3025 : Part 23 -1986 (Reaff 2005)	1 mg/l to 1000 mg/l
		Chloride as NaCl	IS 3025:Part 32 - 1988 (Reaff.2003)	1 mg/l to 1000 mg/l
		Ammonia as NH ₃	IS 3025 : Part 34 - 1988 (Reaff.2003)	1 mg/l to 20 mg/l
		Silica as SiO ₂	IS 3025:Part 35 - 1988 (Reaff.2003)	0.1 mg/l to 100 mg/l
		Dissolved Oxygen	IS 3025:Part 38- 1989 (Reaff.2003)	1 mg/l to 8.0 mg/l
		Oil and Grease	IS 3025:Part 39 -1991 (Reaff.2009)	2 mg/l to 100 mg/l
		Copper as Cu	IS 3025:Part 42 -1992 (Reaff.2003)	0.3 mg/l to 10 mg/l
		Sodium as Na	IS 3025:Part 45 -1995 (Reaff.1999)	1 mg/l to 1000 mg/l
		Oxygen Consumed in 4hrs	IS: 3025 -51-2005	1 mg/l to 100 mg/l
		Iron as Fe	IS 3025: Part 53-2003 (Reaff 2009)	0.1 mg/l to 50 mg/l

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III	POLLUTION AND EFFLUENTS			
1.	Waste Water	Colour	APHA 22 nd ed, 2012: 2120B	2 Hazen unit to 100 Hazen unit
		Odour	IS 3025 Part 5 - 1983 (Reaff. 2002)	Objectionable/ Unobjectionable
		Temperature	IS 3025 : Part 9 -1983 (Reaff.2006)	20 °C to 50°C
		Turbidity	IS 3025 : Part 10 - 1884 (Reaff.2002) Nephelometric Method	1 NTU to 400 NTU
		pH@25°C	IS 3025 : Part 11 - 1983 (Reaff.2013) (Electrometric Method)	2 to 12
		Specific Conductance 25°C	IS 3025 : Part 14 -1983 Reaff.2013)	5 µmhos/cm to 50,000 µmhos/cm
		Total Solids	IS 3025 : Part 15 - 1984 (Reaff.2009)	2 mg/l to 10,000 mg/l
		Total Dissolved Solids	IS 3025 : Part 16 - 1984 (Reaff.2006)	2 mg/l to 10,000 mg/l
		Total Suspended Solids	IS 3025 : Part 17 - 1984 (Reaff.2006)	2 mg/l to 10,000 mg/l
		Volatile Solids	IS 3025 : Part 18 - 1984 (Reaff.2006)	2 mg/l to 1000 mg/l
		Fixed Solids	IS 3025 : Part 18 -1984 (Reaff.2006)	2 mg/l to 10,000 mg/l
		Settleable matter	IS 3025 : Part 19 -1984 (Reaff.2006)	5 ml/l to 40 ml/l
		Total Hardness as CaCO ₃	IS 3025 : Part 21 -1984 (Reaff.2006) (EDTA- METHOD)	2 mg/l to 5,000 mg/l
		Acidity as CaCO ₃	IS 3025 : Part 22 -1986 (Reaff.2009)	2 mg/l to 1,000 mg/l
		Alkalinity as CaCO ₃	IS 3025 : Part 23- 1986 (Reaff.2009)	2 mg/l to 1,000 mg/l

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		Sulphate as SO ₄	IS 3025 : Part 24- 1986 (Reaff.2009) (Turbidity Method)	1 mg/l to 2,000 mg/l
		Sulphites SO ₃	IS 3025 : Part 28-1986 (Reaff.2009)	1 mg/l to 100 mg/l
		Sulphide S ²⁻	APHA 22 nd Edn, 2012-4500 S ²⁻ F	2 mg/l to 200 mg/l
		Phosphorous as P	IS 3025 : Part 31-1988 (Reaff.2009) (Stannous Chloride Method)	0.01 mg/l to 100 mg/l
		Chloride as Cl ⁻	IS 3025 : Part 32 -1988 (Reaff.2009) (Argentometric Method)	1 mg/l to 2,500 mg/l
		Ammonical Nitrogen NH ₃ N	IS 3025: Part 34-1988 (Reaff.2009) Titrimetric Method,	1 mg/l to 500 mg/l
		Ammonia as NH ₃	IS 3025: Part 34-1988 (Reaff.2009) Titrimetric Method,	1 mg/l to 200 mg/l
		Nitrite Nitrogen NO ₂ N	IS 3025 : Part 34-1988 (Reaff.2009)	0.02 mg/l to 100 mg/l
		Nitrate Nitrogen as NO ₃	IS 3025: Part 34-1988 (Reaff.2003)Devarda's alloy reduction method	1.0 mg/l to 500 mg/l
		Total Kjeldal Nitrogen	IS 3025 : Part 34 - 1988 (Reaff.2003)	1.0 mg/l to 500 mg/l
		Dissolved Oxygen O ₂	IS 3025 : Part 38 (Reaff.2009) Titrimetric Method	1 mg/l to 5 mg/l
		Oil and Grease	IS 3025 : Part 39-1991 (Reaff.2009) Partition Gravimetric Method	2 mg/l to 10,000 mg/l

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		Phenols as C ₆ H ₅ OH	IS 3025: Part 4 1983 (Reaff.2006) (4-Aminoantipyrine Method without Chloroform Extraction)	0.1 mg/l to 10 mg/l
		BOD @ 27°C for 3 days	IS 3025:Part 44-1993 (Reaff.2009)	2 mg/l to 20,000 mg/l
		BOD @ 20°C for 5 days	APHA 22 nd Edn 5210-B, 2012	2 mg/l to 20,000 mg/l
		Chemical oxygen Demand	IS 3025 : Part 58 -2006 (Reaff 2012)	4 mg/l to 50,000 mg/l
		Sodium as Na	IS 3025 : Part 45 -1993 (Reaff.2009) (Flame Photometry Method)	1 mg/l to 1000 mg/l
		Sodium absorption Ratio	IS 11624 - 1986 (Reaff :2001)	0.1 mg/l to 20 mg/l
		Residual Sodium Carbonate	IS 11624 - 1986 (Reaff : 2001)	-5 meq/l to +10 meq/l
		Percent Sodium %	ESIPL - SOP/C-W/50 Issue No/ Date: 01/05.11.2014	1 % to 80%
		Potassium as K	IS 3025 : Part 45 -1993 (Reaff.2009) (Flame Photometry Method)	1 mg/l to 1000 mg/l
		Magnesium as Mg	IS 3025: Part 46-1994 (Reaff.2009) (Volumetric Method using EDTA)	1 mg/l to 2,000 mg/l
		Carbonate as CO ₃	IS 3025: Part 51-2001 (Reaff.2009)	2 mg/l to 500 mg/l
		Bicarbonate as HCO ₃	IS 3025: Part 51-2001 (Reaff.2009)	2 mg/l to 1,000 mg/l
		Manganese as Mn	IS3025:Part 59 -2006	0.5 mg/l to 20 mg/l

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		Total Chromium as Cr	IS 3025: Part 52 -2003 (Reaff.2009)(Diphenylcarbazide Method)	0.1 mg/l to 20 mg/l
		Chromium as Cr ⁶⁺	IS 3025: Part 52-2003 (Reaff.2009) (Diphenylcarbazide Method)	0.1 mg/l to 20 mg/l
2.	Solid Wastes (Municipal Solid Waste, ETP & STP Sludge)	pH	IS 10158 :1982 (Reaff: 2009)	2 to 12
		Moisture content	IS 2720:Part 2 -1987 (Reaff:2010)	1 % to 90 %
		Electric Conductivity	IS 14767-2000 (Reaff.2010)	1 µmhos/cm to 10000 µmhos/cm
		Volatile and Semi Volatile substances	IS 10158 :1982 (Reaff: 2009)	0.1 % to 90 %
		Organic Carbon	IS 2720:Part 22-1972 (Reaff.2010)	0.01 % to 80 %
		Organic Matter	IS 2720:Part 22-1972 (Reaff.2010)	0.02 % to 90%
		Total Kjeldal Nitrogen (TKN)	IS 14684: 1999 (Reaff: 2008)	0.02 % to 30 %
		Phosphate as PO ₄	IS 10158 :1982 (Reaff: 2009)	1 mg/kg to 250 mg/kg
		Potassium	IS 10158 :1982 (Reaff: 2009)	10 mg/kg to 500 mg/kg
3.	Soil/Sediment	Ash content	IS 10158-1982 (Reaff:2003)	0.1% to 80 %
		Grain Size Analysis 4.75 mm 2.00 mm 425 µm 75 µm	IS 2720 : Part 4 -1985 (Reaff: 2010)	Passing through 0.5 % to 95 % 0.5 % to 95 % 0.5 % to 95 % 0.5 % to 95 %
		Soil Texture (particle size analysis)	ESIPL/SOP/C-S/04 Issue No/ Date: 01/05.11.2014	Sand- 1% to 80% Silt- 1% to 80% Clay-1% to 80%

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		Bulk Density	ESIPL/SOP/C-S/23 Issue No/ Date: 01/06.03.2017	0.5 gm/cm ³ to 2.0 gm/cm ³
		Infiltration Rate	ESIPL/SOP/C-S/18 Issue No/ Date: 01/05.11.2014	0.2 cm/hr to 5.0 cm/hr
		Total Water Soluble Solids	IS 2720:Part 21-1997 (Reaff.2010)	1 % to 90%
		pH Value	IS 2720:Part 26 : 1987 (Reaff.2011)	2 to 12
		Electrical Conductivity	IS 14767-2000 (Reaff.2010)	1 µmhos/cm to 10000 µmhos/cm
		Organic Carbon	IS 2720:Part 22-1972 (Reaff.2010)	0.01 % to 10 %
		Organic Matter	IS 2720:Part 22-1972 (Reaff.2010)	0.02 % to 20 %
		Cation Exchange Capacity (CEC)	ESIPL/SOP/C-S/10 Issue No/ Date: 01/05.11.2014	2 meq/100g to 100 meq/100g
		Sulphate	ESIPL/SOP/C-S/16 Issue No/ Date: 01/05.11.2014	1 mg/kg to 500 mg/kg
		Water Soluble Chloride	ESIPL/SOP/C-S/08 Issue No/ Date: 01/05.11.2014	10 mg/kg to 500 mg/kg
		Total Kjheldal Nitrogen	IS 14684: 1999 (Reaff: 2008)	0.02 % to 20 %
		Total Phosphorus as P	ESIPL/SOP/C-S/20 Issue No/ Date: 01/06.03.2017	10 mg/kg to 200 mg/kg
		Total Potassium as K	ESIPL/SOP/C-S/22 Issue No/ Date: 01/06.03.2017	10 mg/kg to 2000 mg/kg
		Available Phosphorus	ESIPL/SOP/C-S/11 Issue No/ Date: 01/06.03.2017	10 mg/kg to 100 mg/kg

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		Available Potassium	ESIPL/SOP/C-S/21 Issue No/ Date: 01/06.03.2017	10 mg/kg to 500 mg/kg
		Water Soluble Sodium	ESIPL/SOP/C-S/07 Issue No/ Date: 01/05.11.2014	10 mg/kg to 1000 mg/kg
		Water Soluble Calcium	ESIPL/SOP/C-S/13 Issue No/ Date: 01/05.11.2014	10 mg/kg to 200 mg/kg
		Chromium as Cr	USEPA 3060A, 1996	0.05 mg/kg to 20 mg/kg

Soundira Pandian. K
Convenor

N. Venkateswaran
Program Director