

Laboratory Central Environmental Laboratory, Karnataka State Pollution Control Board, "Nisarga Bhavan", 7th 'D' Main, Thimmaiah Road, Shivanagar, Bangalore, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 24.04.2015

Certificate Number T-3372 **Valid Until** 23.04.2017

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	WATER			
1.	Ground Water Surface Water	pH	APHA (22 nd Edition) 4500-H ⁺ B: 2012; IS 3025 (Part 11): 1983 (RA 2002); Electrometric Method	1 to 14
		Conductivity	APHA (22 nd Edition) 2510-B: 2012; IS 3025 (Part 14): 2013 (ISO 7888: 1985); Electrometric Method	50 μ s / cm to 1000 μ s /cm
		Total Dissolved Solids	APHA (22 nd Edition) 2540-C: 2012; IS 3025 (Part 16): 1984 (RA 2006); Gravimetric Method	50 mg/l to 2000 mg/l
		Total Solids	APHA (22 nd Edition) 2540-B: 2012; IS 3025 (Part 15): 1984 (RA 2003); Gravimetric Method	50 mg/l to 2000 mg/l
		Total Suspended Solids	APHA (22 nd Edition) 2540-D: 2012; IS 3025 (Part 17): 1984 (RA 1996); Gravimetric Method	10 mg/l to 500 mg/l
		Total Hardness	APHA (22 nd Edition) 2340-C: 2012; IS 3025 (Part 21): 2009; EDTA Titrimetric Method	50 mg/l to 2000 mg/l
		Calcium	APHA (22 nd Edition) 3500-Ca B: 2012; IS 3025 (Part 40): 1991 (RA 2003); EDTA Titrimetric Method	50 mg/l to 1000 mg/l

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Ground Water Surface Water	Chloride	APHA (22 nd Edition) 4500-Cl ⁻ B: 2012; IS 3025 (Part32): 1988 (RA 2003); Argentometric Method	50 mg/l to 2000 mg/l
		Potassium	APHA (22 nd Edition) 3500-K B: 2012; IS 3025 (Part 45): 1993 (RA 2003); Flame Emission photometric Method	1 mg/l to 100 mg/l
		Sodium	APHA (22 nd Edition) 3500-Na B: 2012; IS 3025 (Part 45): 1993 (RA 2003); Flame Emission photometric Method	1 mg/l to 500 mg/l
		Chemical Oxygen Demand	APHA (22 nd Edition) 5220-B: 2012; IS 3025 (Part 58): 2006; Open Reflux Method	25 mg/l to 1000 mg/l
		Biochemical Oxygen Demand	APHA (22 nd Edition) 5210-B: 2012; IS 3025 (Part 44): 1993 (RA 2003); Winkler Method; Membrane Electrode Method	3 mg/l to 300 mg/l
		Copper	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.02 mg/l to 10 mg/l

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	Ground Water Surface Water	Zinc	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.5 mg/l to 10 mg/l
		Nickel	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.01 mg/l to 10 mg/l
		Manganese	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.05 mg/l to 10 mg/l
		Total Chromium	APHA (22 nd Edition) 3110:2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.02 mg/l to 6 mg/l
		Iron	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996) ; Atomic Absorption Method (Direct)	0.1 mg/l to 10 mg/l
		Cadmium	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 41): 1992 (RA 2003); Atomic Absorption Method (Direct)	0.002 mg/l to 10 mg/l
		Lead	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996) ; Atomic Absorption Method (Direct)	0.01 mg/l to 10 mg/l

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Ground Water Surface Water	Oxygen (Dissolved)	APHA (22 nd Edition) 4500-O G: 2012; IS 3025 (Part 38): 1989 (RA 2003); Winkler Method; Membrane electrode Method	3 mg/l to 20 mg/l
		Alkalinity	APHA (22 nd Edition) 2320-B: 2012; IS 3025 (Part 23): 1986 (RA 2003); Indicator Method	50 mg/l to 1000 mg/l
		Boron	APHA (22 nd Edition) 4500-B: 2012; Curcumin Method	0.2 mg/l to 1 mg/l
		Turbidity	APHA (22 nd Edition) 2130-B: 2012; IS 3025 (Part 10): 1984 (RA 2002); Turbidity Method	0.5 NTU to 40 NTU
		Sulphate	APHA (22 nd Edition) 4500-SO ₄ E: 2012; IS 3025 (Part 24): 1986 (RA 1992); Turbidity Method	10 mg/l to 1000 mg/l
		Nitrogen (Nitrate)	APHA (22 nd Edition) 4500-NO ₃ ⁻ B & D: 2012; IS 3025 (Part 34): 1988 (RA 2003); Ion selective electrode Method; Spectrophotometric Method	1 mg/l to 20 mg/l 1 mg/l to 100 mg/l
		Fluoride	APHA (22 nd Edition) 4500-F ⁻ C & D : 2012; IS 3025 (Part 60): 2008; Electro Chemical Probe Method; Zirconium Alizarin Method	0.5 mg/l to 5 mg/l

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	Ground Water Surface Water	Nitrogen (Ammonia)	APHA (22 nd Edition) 4500-NH ₃ D: 2012; IS 3025 (Part 34): 1988 (RA 2003); Nesslerization Method; Ammonia Selective Electrode Method	0.4 mg/l to 50 mg/l
		Nitrogen (Organic)	APHA (22 nd Edition) 4500-N _{org} B: 2012; IS 3025 (Part 34): 1988 (RA 2003); Semi-Micro- Kjeldahl Method	0.1 mg/l to 100 mg/l
2.	Waste Water	pH	APHA (22 nd Edition) 4500-H ⁺ B: 2012; IS 3025 (Part 11): 1983 (RA 2002); Electrometric Method	1 to 14
		Conductivity	APHA (22 nd Edition) 2510-B: 2012; IS 3025 (Part 14): 2013 (ISO 7888: 1985); Electrometric Method	100µs to 1500µs
		Total Dissolved Solids	APHA (22 nd Edition) 2510-B: 2012; IS 3025 (Part 14): 2013 (ISO 7888: 1985); Gravimetric Method	50 mg/l to 2500 mg/l
		Total Solids	APHA (22 nd Edition) 2540-B: 2012; IS 3025 (Part 16): 1984 (RA 2003); Gravimetric Method	100 mg/l to 2500 mg/l
		Total Suspended Solids	APHA (22 nd Edition) 2540-D: 2012; IS 3025 (Part 17): 1984 (RA 1996); Gravimetric Method	20 mg/l to 500 mg/l

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	Waste Water	Total Hardness	APHA (22 nd Edition) 2340-C: 2012; IS 3025 (Part 21): 2009; EDTA Titrimetric Method	50 mg/l to 5000 mg/l
		Calcium	APHA (22 nd Edition) 3500-Ca B: 2012; IS 3025 (Part 40): 1991 (RA 2003); EDTA Titrimetric Method	50 mg/l to 2000 mg/l
		Chloride	APHA (22 nd Edition) 4500-Cl B: 2012; IS 3025 (Part 32): 1988 (RA 2003); Argentometric Method	200 mg/l to 1000 mg/l
		Potassium	APHA (22 nd Edition) 3500-K B: 2012; IS 3025 (Part 45): 1993 (RA 2003) ; Flame Emission photometric Method	10 mg/l to 100mg/l
		Sodium	APHA (22 nd Edition) 3500-Na B: 2012; IS 3025 (Part 45): 1993 (RA 2003) ; Flame Emission photometric Method	10 mg/l to 500 mg/l
		Chemical Oxygen Demand	APHA (22 nd Edition) 5220-B: 2012; IS 3025 (Part 58): 2006; Open Reflux Method	50 mg/l to 1000 mg/l

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	Waste Water	Biochemical Oxygen Demand	APHA (22 nd Edition) 5210-B: 2012; IS 3025 (Part 44): 1993 (RA 2003); Winkler Method; Membrane electrode Method	10 mg/l to 1000 mg/l
		Copper	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic absorption Method (Direct)	0.5 mg/l to 10 mg/l
		Zinc	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.5 mg/l to 10 mg/l
		Sulphide	APHA (22 nd Edition) 4500-S ⁻ F: 2012; IS 3025 (Part 29): 1986 (RA 2003); Iodimetric Method	1 mg/l to 50 mg/l
		Boron	APHA (22 nd Edition) 4500-B: 2012; Curcumin Method	0.1 mg/l to 1 mg/l
		Turbidity	APHA (22 nd Edition) 2130-B: 2012; IS 3025 (Part 10): 1984 (RA 2002) Turbidity Method	5 NTU to 40 NTU
		Sulphate	APHA (22 nd Edition) 4500-SO ₄ E: 2012; IS 3025 (Part 24): 1986 (RA 1992); Turbidity Method	20 mg/l to 2000 mg/l

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	Waste Water	Nitrogen (Nitrate)	APHA (22 nd Edition) 4500-NO ₃ ⁻ B & D: 2012; IS 3025 (Part 34): 1988 (RA 2003); Ion Selective Electrode Method; Spectrophotometric Method	5 mg/l to 100 mg/l
		Fluoride	APHA (22 nd Edition) 4500-F ⁻ C & D: 2012; IS 3025 (Part 60): 2008; Electro Chemical Probe Method; Zirconium Alizarin Method	0.5 mg/l to 50 mg/l
		Phosphate	APHA (22 nd Edition) 4500-P D: 2012; IS 3025 (Part 31): 1988 (RA 2003); Stannous Chloride Method	0.2 mg/l to 10 mg/l
		Hexavalent Chromium	APHA (22 nd Edition): 2012; Spectrophotometric Method	0.05 mg/l to 10 mg/l
		Nickel	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	1 mg/l to 10 mg/l
		Manganese	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.05 mg/l to 10 mg/l
		Total Chromium	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic absorption Method (Direct)	0.5 mg/l to 10 mg/l

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	Waste Water	Iron	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.5 mg/l to 10 mg/l
		Cadmium	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 41): 1992 (RA 2003); Atomic Absorption Method (Direct)	0.5 mg/l to 10 mg/l
		Lead	APHA (22 nd Edition) 3110: 2012; IS 3025 (Part 2): 2004 (ISO 11885: 1996); Atomic Absorption Method (Direct)	0.05 mg/l to 10 mg/l
		Oxygen (Dissolved)	APHA (22 nd Edition) 4500-O G: 2012; IS 3025 (Part 38): 1989 (RA 2003); Winkler Method; Membrane electrode Method	2 mg/l to 20 mg/l
		Alkalinity	APHA (22 nd Edition) 2320-B: 2012; IS 3025 (Part 23)-1986 (RA 2003); Indicator Method	50 mg/l to 1000 mg/l
		Oil & Grease	APHA (22 nd Edition) 5520-B: 2012; IS 3025 (Part 39): 1991 (RA 2003); Partition Gravimetric Method	10 mg/l to 100 mg/l
		Phenolic Compounds	APHA (22 nd Edition) 5530-C: 2012; IS 3025 (Part 43): 1992; 4-AminoAntipyrine Method with Chloroform extraction	0.1 mg/l to 1 mg/l

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	Waste Water	Nitrogen (Organic)	APHA (22 nd Edition) 4500-N _{org} B: 2012; IS 3025 (Part 34): 1988 (RA 2003) ; Semi-Micro- Kjeldahl Method	0.1 mg/l to 100 mg/l

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