

Laboratory	Environmental Laboratory, Green Circle Inc., Green Empire, (Anupushpam Habitat Centre), Gotri Main Road, Vadodara, Gujarat		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	01.04.2016
Certificate Number	T-2677	Valid Until	31.03.2018
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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. ATMOSPHERIC POLLUTION				
1.	Ambient Air Monitoring	Oxides of Nitrogen	IS 5182 (Part 6): 2006	6 µg/m ³ to 750 µg/m ³
		Sulfur Dioxide	IS 5182 (Part 2): 2001 (RA 2006)	4 µg/m ³ to 1050 µg/m ³
		Particulate Matter (PM _{2.5})	GCI/SOP/AA2 based on CPCB Guidelines for measurement of ambient air pollutants Vol.I: 2012	4 µg/m ³ to 2000 µg/m ³
		Respirable Suspended Particulate Matter (PM ₁₀)	IS 5182 (Part 23): 2006	1 µg/m ³ to 2000 µg/m ³
		Ozone	IS 5182 (Part 9): 1974, (RA 2009)	5 µg/m ³ to 200 µg/m ³
		Lead	IS 5182 (Part 22): 2004 (RA 2009)	0.5 µg/m ³ to 10 µg/m ³
		Nickel	GCI/SOP/AA5 based on CPCB Guidelines for measurement of ambient air pollutants Vol. I: 2012	10 µg/m ³ to 50 ng/m ³
	Ammonia	GCI/SOP/AA6 based on CPCB Guidelines for measurement of ambient air pollutants Vol. I: 2012	7 µg/m ³ to 700 µg/m ³	
II. POLLUTION & ENVIRONMENT				
1.	Waste Water (Effluent/ Sewage)	Acidity as CaCO ₃	APHA (22 nd Edition) 2310 B: 2012	5 mg/l to 5000 mg/l
		Total Alkalinity as CaCO ₃	APHA (22 nd Edition) 2320 B: 2012	5 mg/l to 1000 mg/l

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	Waste Water (Effluent/ Sewage)	Conductivity	APHA (22 nd Edition) 2510 B: 2012	1µS/cm to 10000 µS/cm 10 mS/cm to 200 mS/cm
		Color	APHA (22 nd Edition) 2120 B: 2012	5 Hazen to 50 Hazen 50 Hazen to 500 Hazen
		Total Hardness as CaCO ₃	APHA (22 nd Edition) 2340 C: 2012	4 mg/l to 100 mg/l
		TSS (Total Suspended Solids)	APHA (22 nd Edition) 2540 D: 2012	10 mg/l to 100 mg/l 100 mg/l to 500 mg/l
		TDS (Total Dissolved Solids)	APHA (22 nd Edition) 2540 C: 2012	10 mg/l to 1000 mg/l 1000 mg/l to 10000 mg/l
		Turbidity	APHA (22 nd Edition) 2130 B: 2012	2 NTU to 10 NTU 10 NTU to 100 NTU
		Ammonical Nitrogen as NH ₃ -N	APHA (22 nd Edition) 4500-NH ₃ -N -B, C: 2012	4 mg/l to 100 mg/l 100 mg/l to 500 mg/l
		Biochemical Oxygen Demand (BOD) (5 days at 20°C/ 3 Days at 27 °C)	APHA (22 nd Edition) 5210 B: 2012	2 mg/l to 100 mg/l 100 mg/l to 1000 mg/l
		Chloride as Cl	APHA (22 nd Edition) 4500-Cl B: 2012	1 mg/l to 100 mg/l 100 mg/l to 10000 mg/l

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	Waste Water (Effluent/ Sewage)	Chemical Oxygen Demand (COD)	APHA (22 nd Edition) 5220 B: 2012	4 mg/l to 100 mg/l
				100 mg/l to 500 mg/l
				500 mg/l to 10000 mg/l
		Calcium Hardness as CaCO ₃	APHA (22 nd Edition) 3500-Ca B: 2012	4 mg/l to 100 mg/l 100 mg/l to 1000 mg/l
		Magnesium Hardness as CaCO ₃	APHA (22 nd Edition) 3500-Mg B: 2012	4 mg/l to 100 mg/l 100 mg/l to 1000 mg/l
		pH @ 25 °C	APHA (22 nd Edition) 4500-H ⁺ B: 2012	1 to 14
		Sulphate as SO ₄	APHA (22 nd Edition) 4500-SO ₄ ⁻² E: 2012	1 mg/l to 100 mg/l 100 mg/l to 10000 mg/l
		Solids (fixed)	APHA (22 nd Edition) 2540 E: 2012	1 mg/l to 10000 mg/l
		Solids (volatile)	APHA (22 nd Edition) 2540 E: 2012	1 mg/l to 10000 mg/l
		Temperature	APHA (22 nd Edition) 2550 B: 2012	Ambient – 45 °C
		Total Solids	APHA (22 nd Edition) 2540 B: 2012	1 mg/l to 50000 mg/l

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	Waste Water (Effluent/ Sewage)	Bicarbonates	APHA (22 nd Edition) 2320: 2012	1 mg/l to 10000 mg/l
		Calcium (Titrimetric)	APHA (22 nd Edition) 3500-Ca B: 2012	1 mg/l to 10000 mg/l
		Nitrate Nitrogen	APHA (22 nd Edition) 4500-NO ₃ : 2012	1 mg/l to 100 mg/l
		Phosphate (as P)	APHA (22 nd Edition) 4500-P: 2012	0.01 mg/l to 100 mg/l
		Silica	APHA (22 nd Edition) 4500-SiO ₂ : 2012	2 mg/l to 200 mg/l
		Sulphide	APHA (22 nd Edition) 4500-S ₂ : 2012	0.5 mg/l to 100 mg/l
		Hexavalent Chromium as Cr ⁶⁺	APHA (22 nd Edition) 3500-Cr B: 2012	0.1 mg/l to 100 mg/l
		Total Chromium as Cr	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Copper as Cu	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Iron as Fe	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Zinc as Zn	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Cadmium	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l

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III. WATER				
1.	Potable and Domestic Water Irrigation Water Distilled De Mineralized Water Bore Water Saline Water	Acidity as CaCO ₃	APHA (22 nd Edition) 2310 B: 2012	5 mg/l to 100 mg/l
				100 mg/l to 500 mg/l
		Total Alkalinity as CaCO ₃	APHA (22 nd Edition) 2320 B: 2012	5 mg/l to 100 mg/l
				100 mg/l to 500 mg/l
				500 mg/l to 1000 mg/l
				1000 mg/l to 10000 mg/l
		Conductivity	APHA (22 nd Edition) 2510 B: 2012	1 µS/cm to 10000 µS/cm
				10 mS/cm to 200 mS/cm
		Color	APHA (22 nd Edition) 2120 B: 2012	5 Hazen to 50 Hazen
				50 Hazen to 500 Hazen
TSS (Total Suspended Solids)	APHA (22 nd Edition) 2540 D: 2012	1 mg/l to 100 mg/l		
		100 mg/l to 500 mg/l		
Total Hardness as CaCO ₃	APHA (22 nd Edition) 2340 C: 2012	4 mg/l to 100 mg/l		
		100 mg/l to 500 mg/l		
		500 mg/l to 1000 mg/l		
TDS (Total Dissolved Solids)	APHA (22 nd Edition) 2540 C: 2012	10 mg/l to 1000 mg/l		
		1000 mg/l to 10000 mg/l		

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	Potable and Domestic Water Irrigation Water Distilled	Turbidity	APHA (22 nd Edition) 2130 B: 2012	2 NTU to 10 NTU 10 NTU to 100 NTU
		De Mineralized Water Bore Water Saline Water	Ammonical Nitrogen as NH ₃ -N	APHA (22 nd Edition) 4500 - NH ₃ -N B, C: 2012
			Biochemical Oxygen Demand (BOD) (5 days at 20°C/ 3 Days at 27 °C)	APHA (22 nd Edition) 5210 B: 2012
		Chloride as Cl	APHA (22 nd Edition) 4500-Cl B: 2012	1 mg/l to 100 mg/l 100 mg/l to 10000 mg/l
		Chemical Oxygen Demand (COD)	APHA (22 nd Edition) 5220 B: 2012	4 mg/l to 100 mg/l
		Calcium Hardness as CaCO ₃	APHA (22 nd Edition) 3500-Ca B: 2012	10 mg/l to 100 mg/l 100 mg/l to 1000 mg/l
		Magnesium Hardness as CaCO ₃	APHA (22 nd Edition) 3500-Mg B: 2012	4 mg/l to 100 mg/l 100 mg/l to 1000 mg/l
		pH @ 25 °C	APHA (22 nd Edition) 4500-H ⁺ B: 2012	1 to 14
		Sulphate as SO ₄	APHA (22 nd Edition) 4500-SO ₄ ⁻² E: 2012	1 mg/l to 100 mg/l 100 mg/l to 10000 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
	Potable and Domestic Water Irrigation Water Distilled De Mineralized Water Bore Water Saline Water	Hexavalent Chromium as Cr ⁶⁺	APHA (22 nd Edition) 3500-Cr B: 2012	0.1 mg/l to 100 mg/l
		Total Chromium as Cr	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Copper as Cu	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Iron as Fe	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Zinc as Zn	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
		Cadmium	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l
2.	Solid Wastes & Hazardous Solid Wastes	Moisture	IS 9235: 1979 (RA 2009)	2 % to 90 %
		pH	IS 10158: 1982 (RA 2009)	1 to 14
		Copper as Cu	EPA 3050 B Rev. 2: 1996 EPA 7000 B Rev. 2: 2007	5 mg/kg to 1000 mg/kg
		Iron as Fe	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	5 mg/kg to 1000 mg/kg
		Zinc as Zn	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1000 mg/kg to 10000 mg/kg 5 mg/kg to 1000 mg/kg

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	Solid Wastes & Hazardous Solid Wastes	Cadmium	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
		Copper	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
		Lead	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
		Nickel	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
3.	Building Materials Clays & Soils	Electrical Conductivity (EC)	IS 14767: 2000 (RA 2010)	10µS/cm to 10000 µS/cm 10 mS/cm to 200 mS/cm
		Moisture	IS 2720 (Part 2): 1973 (RA 2010)	2 % to 50 %
		Organic Matter & Organic Carbon	IS 2720 (Part 22): 1972 (RA 2010)	0.1 % to 50 %
		pH	IS 2720 (Part 26): 1987 (RA 2007)	1 to 14
		Total Soluble Sulphate	IS 2720 (Part 27): 1977 (RA 2010)	0.1 mg/kg to 50 mg/kg
		Iron as Fe	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	5 mg/kg to 1000 mg/kg 1000 mg/kg to 10000 mg/kg

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	Building Materials Clays & Soils	Zinc as Zn	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	5 mg/kg to 1000 mg/kg
		Calcium carbonate	IS 2720 (Part 23)	50 mg/kg to 10000 mg/kg
		Cadmium as Cd	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
		Copper as Cu	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
		Lead as Pb	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg
		Nickel as Ni	EPA 3050B Rev. 2: 1996 EPA 7000B Rev. 2: 2007	1 mg/kg to 5000 mg/kg

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