Laboratory Envirogreen Consultants (India) Pvt. Ltd., 1-B, Machhla Magra, Patel

Circle, Udaipur, Rajasthan

Accreditation Standard ISO/IEC 17025: 2005

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Validity 22.08.2018 to 21.08.2020 Last Amended on 30.08.2018

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

CHEMICAL TESTING

AT I	LABORATORY			
I.	ATMOSPHERIC PO	OLLUTION		
1.	Ambient Air	SPM Particulate Matters PM ₁₀	IS 5182 (Part 4) IS 5182 (Part 23)	50 μg/m³ to 1000 μg/m³ 10 μg/m³ to 200 μg/m³
		Particulate Matters PM 2.5	40 CFR-Part-49-50 USEPA-Appendix LA (EGCIPL/Lab/Air/002)	10 μg/m ³ to 250 μg/m ³
		Sulphur Dioxide (SO ₂)	IS 5182 (Part 2)	3 μg/m³ to 500 μg/m³
 		Oxides of Nitrogen (NO _x)	IS 5182 (Part 6)	6 μg/m³ to 750 μg/m³
2.	Stack Emission	Particulate Matter	IS 11255 (Part 1)	5 mg/Nm ³ to 400 mg/Nm ³
		Oxides of Nitrogen NO _x	IS 11255 (Part 7)	4 mg/Nm ³ to 400 mg/Nm ³
		Sulphur Dioxide SO ₂	IS 11255 (Part 2)	4 mg/Nm³to 400 mg/Nm³
II.	WATER			
1.	Surface Water/ Ground Water/	рН	IS 3025 (Part 11) Clause 2.0 (Electrometric method)	1 to 12
	Drinking Water	Color	IS 3025 (Part 4) Clause 2.0 Platinum Cobalt (Visual Comparison Method)	5 Color Units to 500 Color Units
		Electric conductivity	IS 3025 (Part 14) (Conductivity Meter Method)	1 μs/cm to 2000 μs/cm
		Turbidity	IS 3025 (Part 10) (nephelometric method)	1 NTU to 1000 NTU
		Total solids	IS 3025 (Part 15) (gravimetric method)	5 mg/l to 1000 mg/l
		Total suspended solids	IS 3025 (Part 17) (gravimetric method)	5 mg/l to 100 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total dissolve solids	IS 3025 (Part 16)	5 mg/l to 5000 mg/l
		Calcium (as Ca ²⁺)	IS 3025 (Part 40) Clause 5.0 (EDTA method)	2 mg/l to 1000 mg/l
		Magnesium (as Mg ²⁺)	IS 3025 (part 46) Clause 6.63 (EDTA method)	2 mg/l to 1000 mg/l
		Total hardness (as CaCO ₃)	IS 3025 (Part 21) (EDTA method)	2 mg/l to 2000 mg/l
		Total Alkalinity (as CaCO₃)	IS 3025 (Part 23) Clause 8.1 (indicator method)	10 mg/l to 1000 mg/l
		Chlorides (as Cl ⁻)	IS 3025 (Part 32) Clause 2.0(Argentometric method)	5 mg/l to 2000 mg/l
		Chromium–Hexavalent (as Cr ⁶⁺)	IS 3025 (Part 52) Clause 6.0 (Diphenylcarbazide method)	0.03 mg/l to 20mg/l
		Residual chlorine	IS 3025: (Part26) Clause 3.0 (lodometric Method)	1 mg/l to 100 mg/l
		BOD (Biochemical Oxygen Demand)	IS 3025 (Part 44)	2 mg/l to 100 mg/l
		COD (Chemical Oxygen Demand)	IS 3025 (Part 58)	4 mg/l to 400 mg/l
		DO (Dissolve Oxygen)	IS 3025 (Part 38)	1 mg/l to 12 mg/l
		Fluoride (as F ⁻)	IS 3025 (Part 60) Clause 5.0 (Zirconiumalizarin method)	0.1 mg/l to 10 mg/l
		Iron (as Fe2+)	IS 3025 (Part 53) Clause 7.0 (Atomic Absorption method)	0.2 mg/l to 10 mg/l
		Phosphate (as P)	IS 3025 (Part 31) Clause 3.0 (Vanadomolybdo Phophoric method)	0.2 mg/l to 100 mg/l

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		Sulphate (as SO ₄)	IS 3025 (Part 24) Clause 4.0 (Turbidity method)	1 mg/l to 400 mg/l
		Oil & Grease	IS 3025 (Part 39) Clause 5.0 (Partition Gravimetric method)	5 mg/l to 100 mg/l
		Sodium as Na	IS 3025 (Part 45) Clause 5.0(Flame Photometry method)	1 mg/l to 1000 mg/l
		Potassium as K	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
	Trace Metal Eleme	nts		
	Surface Water/ Ground Water/ Drinking Water	Copper (as Cu)	IS 3025 (Part 42) Clause 6.0 (Atomic Absorption method)	0.1 mg/l to 100 mg/l
		Cadmium (as Cd)	IS 3025 (Part 41) Clause 5.0(Atomic Absorption method)	0.05 mg/l to 50 mg/l
		Lead (as Pb)	IS 3025 (Part 47) Clause 7.0 (Atomic Absorption method)	0.5 mg/l to 50 mg/l
		Zinc (as Zn)	IS 3025 (Part 49) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 100 mg/l
2.	Construction - Water/ Irrigation	pН	IS 3025 (Part 11) Clause 2.0 (Electro matric method)	1 to 12
	Water	Color	IS 3025 (Part 4) Clause 2.0 Platinum Cobalt (Visual Comparison Method)	5 Color Units to 500 Color Units
		Electric conductivity	IS 3025 (Part 14) (conductivity meter method)	1 μs/cm to 2000 μs/cm
		Turbidity	IS 3025 (Part 10) (nephelometric method)	1 NTU to 1000 NTU

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total solids	IS 3025 (Part 15) (gravimetric method)	5 mg/l to 1000 mg/l
		Total suspended solids	IS 3025 (Part 17) (gravimetric method)	5 mg/l to 100 mg/l
		Total dissolve solids	IS 3025 (Part 16)	5 mg/l to 5000 mg/l
		Calcium (as Ca ²⁺)	IS 3025 (Part 40) Clause 5.0 (EDTA method)	2 mg/l to 1000 mg/l
		Magnesium (as Mg ²⁺)	IS 3025 (Part 46) Clause 6.63 (EDTA method)	2 mg/l to 1000 mg/l
		Total hardness (as CaCO₃)	IS 3025 (Part 21) (EDTA method)	2 mg/l to 2000 mg/l
		Total Alkalinity (as CaCO ₃)	IS 3025 (Part 23) Clause 8.1(indicator method)	10 mg/l to 1000 mg/l
		Chlorides (as Cl ⁻)	IS 3025 (Part 32) Clause 2.0 (Argentometric method)	5 mg/l to 2000 mg/l
		Chromium–Hexavalent (as Cr ⁶⁺)	IS 3025 (Part 52) Clause 6.0 (Diphenylcarbazide method)	0.03 mg/l to 20 mg/l
		Residual chlorine	IS 3025: (Part26) Clause 3.0(lodometric Method)	1 mg/l to 100 mg/l
		BOD (Biochemical Oxygen Demand)	IS 3025 (Part 44)	2 mg/l to 100 mg/l
		COD (Chemical Oxygen Demand)	IS 3025 (Part 58)	4 mg/l to 400 mg/l
		DO (Dissolve Oxygen)	IS 3025 (Part 38)	1 mg/l to 12 mg/l
		Fluoride (as F ⁻)	IS 3025 (Part 60) Clause 5.0 (Zirconiumalizarin method)	0.1 mg/l to 10 mg/l
		Iron (as Fe2 ⁺)	IS 3025 (Part 53) Clause 7.0 (Atomic Absorption method)	0.2 mg/l to 10 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Phosphate (as P)	IS 3025 (Part 31) Clause 3.0 (Vanadomolybdo Phophoric method)	0.2 mg/l to 100 mg/l
		Sulphate (as SO ₄)	IS 3025 (Part 24) Clause 4.0 (Turbidity method)	1 mg/l to 400 mg/l
		Oil & Grease	IS 3025 (Part 39) Clause 5.0 (Partition Gravimetric method)	5 mg/l to 100 mg/l
		Sodium as Na	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
		Potassium as K	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
İ	Trace Metal Elemen			
	Construction - Water/ Irrigation Water	Copper (as Cu)	IS 3025 (Part 42) Clause 6.0 (Atomic Absorption method)	0.1 mg/l to 100 mg/l
		Cadmium (as Cd)	IS 3025 (Part 41) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 50 mg/l
		Lead (as Pb)	IS 3025 (Part 47) Clause 7.0 (Atomic Absorption method)	0.5 mg/l to 50 mg/l
		Zinc (as Zn)	IS 3025 (Part 49) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 100 mg/l
3.	Industrial Water	рН	IS 3025 (Part 11) Clause 2.0 (Electro metric method)	1 to 12
		Color	IS 3025 (Part 4) Clause 2.0 Platinum Cobalt (Visual Comparison Method)	5 Color Units to 500 Color Units

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electric conductivity	IS 3025 (Part 14) (conductivity meter method)	1 μs/cm to 2000 μs/cm
		Turbidity	IS 3025 (Part 10) (nephelometric method)	1 NTU to 1000 NTU
		Total solids	IS 3025 (Part 15) (gravimetric method)	5 mg/l to 1000 mg/l
		Total suspended solids	IS 3025 (Part 17) (gravimetric method)	5 mg/l to 100 mg/l
		Total dissolve solids	IS 3025 (Part 16)	5 mg/l to 5000 mg/l
		Calcium (as Ca ²⁺)	IS 3025 (Part 40) Clause 5.0 (EDTA method)	2 mg/l to 1000 mg/l
		Magnesium (as Mg ²⁺)	IS 3025 (Part 46) Clause 6.63 (EDTA method)	2 mg/l to 1000 mg/l
		Total hardness (as CaCO₃)	IS 3025 (Part 21) (EDTA method)	2 mg/l to 2000 mg/l
		Total Alkalinity (as CaCO ₃)	IS 3025 (Part 23) Clause 8.1 (indicator method)	10 mg/l to 1000 mg/l
		Chlorides (as Cl ⁻)	IS 3025 (Part 32) Clause 2.0 (Argentometric method)	5 mg/l to 2000 mg/l
		Chromium–Hexavalent (as Cr ⁶⁺)	IS 3025 (Part 52) Clause 6.0 (Diphenylcarbazide method)	0.03 mg/l to 20 mg/l
		Residual chlorine	IS 3025 (Part26) Clause 3.0 (lodometric Method)	1 mg/l to 100 mg/l
		BOD (Biochemical Oxygen Demand)	IS 3025 (Part 44)	2 mg/l to 100 mg/l
		COD (Chemical Oxygen Demand)	IS 3025 (Part 58)	4 mg/l to 400 mg/l

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		DO (Dissolve Oxygen)	IS 3025 (Part 38)	1 mg/l to 12 mg/l
		Fluoride (as F ⁻)	IS 3025 (Part 60) Clause 5.0	0.1 mg/l to 10 mg/l
			(Zirconiumalizarin method)	
		Iron (as Fe2+)	IS 3025 (Part 53) Clause 7.0 (Atomic Absorption method)	0.2 mg/l to 10 mg/l
		Phosphate (as P)	IS 3025 (Part 31) Clause 3.0 (Vanadomolybdo Phophoric method)	0.2 mg/l to 100 mg/l
		Sulphate (as SO ₄)	IS 3025 (Part 24) Clause 4.0(Turbidity method)	1 mg/l to 400 mg/l
		Oil & Grease	IS 3025 (Part 39) Clause 5.0 (Partition Gravimetric method)	5 mg/l to 100 mg/l
		Sodium as Na	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
		Potassium as K	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
	Trace Metal Elemer	 nts	,	
	Industrial Water	Copper (as Cu)	IS 3025 (Part 42) Clause 6.0 (Atomic Absorption method)	0.1 mg/l to 100 mg/l
		Cadmium (as Cd)	IS 3025 (Part 41) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 50 mg/l
		Lead (as Pb)	IS 3025 (Part 47) Clause 7.0 (Atomic Absorption method)	0.5 mg/l to 50 mg/l
		Zinc (as Zn)	IS 3025 (Part 49) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 100 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
III.	POLLUTION & ENV	IRONMENT		
1.	Waste Water / Effluent	рН	IS 3025 (Part 11) Clause 2.0 (electro matric method)	1 to 12
		Electric conductivity	IS 3025 (Part 14) (conductivity meter method)	1 μs/cm to 30000 μs/cm
		Total solids	IS 3025 (Part 15) (gravimetric method)	5 mg/l to 10,000 mg/l
		Total suspended solids	IS 3025 (Part 17) (gravimetric method)	5 mg/l to 500 mg/l
		Total dissolve solids	IS 3025 (Part 16) (gravimetric method)	5 mg/l to 5,000 mg/l
		Calcium (as Ca ²⁺)	IS 3025 (Part 40) Clause 5.0 (EDTA method)	2 mg/l to 1000 mg/l
		Magnesium (as Mg ²⁺)	IS 3025 (Part 46) Clause 6.63 (EDTA method)	2 mg/l to 1000 mg/l
		Total hardness (as CaCO₃)	IS 3025 (Part 21) (EDTA method)	2 mg/l to 2000 mg/l
		Total Alkalinity (as CaCO₃)	IS 3025 (Part 23) Clause 8.1 (indicator method)	2 mg/l to 2000 mg/l
		Chlorides (as Cl ⁻)	IS 3025 (Part 32) Clause 2.0 (Argentometric method)	5 mg/l to 10000 mg/l
		Chromium–Hexavelent (as Cr ⁶⁺)	IS 3025 (Part 52) Clause 6.0 (Diphenylcarbazide method)	0.02 mg/l to 50 mg/l
		BOD (Biochemical Oxygen Demand)	IS 3025 (Part 44)	2 mg/l to 4000 mg/l
		COD (Chemical Oxygen Demand)	IS 3025 (Part 58)	5 mg/l to 10000 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		DO (Dissolve Oxygen)	IS 3025 (Part 38)	1 mg/l to 12 mg/l
		Fluoride (as F ⁻)	IS 3025 (Part 60) Clause 5.0 (Zirconiumalizarin method)	0.1 to 10 mg/l
		Phosphate (as P)	IS 3025 (Part 31) Clause 3.0 (Vanadomolybdo Phophoric method)	0.1 mg/l to 50 mg/l
		Sulphate (as SO ₄)	IS 3025 (Part 24) Clause 4.0 (Turbidity method)	2 mg/l to 500 mg/l
		Oil & Grease	IS 3025 (Part 39) Clause 5.0 (Partition Gravimetric method)	1 mg/l to 50 mg/l
		Iron	IS 3025 (Part 53) Clause 7.0(Atomic Absorption method)	0.2 mg/l to 1000 mg/l
		Copper (as Cu)	IS:3025 (Part 42) Clause 6.0(Atomic Absorption method)	0.1 mg/l to 1000 mg/l
		Sodium (as Na)	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
		Potassium (as K)	IS 3025 (Part 45) Clause 5.0 (Flame Photometry method)	1 mg/l to 1000 mg/l
		Cadmium (as Cd)	IS 3025 (Part 41) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 100 mg/l
		Lead (as Pb)	IS 3025 (Part 47) Clause 7.0 (Atomic Absorption method)	0.5 mg/l to 100 mg/l
		Zinc (as Zn)	IS 3025 (Part 49) Clause 5.0 (Atomic Absorption method)	0.05 mg/l to 100 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Soil	рН	IS 2720 (Part 26) (Electrometric method)	1 to 12
		Total soluble solids	IS 2720 (Part 21) (Gravimetric method)	0.1 % to 10 %
		Moisture Content	IS 2720 (Part 2) (Gravimetric method)	1 % to 40 %
		Electrical Conductivity	IS 14767	0.10 ms/cm to 5.0 ms/cm
IV.	ORES & MINERALS	1		
1.	Lime Stone,	LOI	IS 1760 (Part 1)	40 % to 50 %
	Dolomite,	SiO ₂	IS 1760 (Part 2)	0.2 % to 30.0 %
	Magnesite & Allied	Al ₂ O ₃	IS 1760 (Part 3)	0.2 % to 2.0 %
	Minerals	Fe ₂ O ₃	IS 1760 (Part 3)	0.2 % to 2.0 %
		MgO	IS 1760 (Part 3)	0.5 % to 52.0 %
		CaO	IS 1760 (Part 3)	0.5 % to 55.0 %
2.	Clay, Wollastonite	LOI	IS 10429	1 % to 10.0 %
	and Allied	SiO ₂	IS 10429	5 % to 60.0 %
	Minerals,	Al ₂ O ₃	IS 10429	0.2 % to 10.0 %
	Soapstone, Talc	Fe ₂ O ₃	IS 10429	0.2 % to 10.0 %
		MgO	IS 10429	0.2 % to 10.0 %
····		CaO	IS 10429	1 % to 50.0 %
		TiO ₂	IS 4589	0.20 % to 5.00 %
3.	Quartz, Silica	LOI	IS 1917 (Part 1)	0.5 % to 1.0 %
	Sand and Allied	SiO ₂	IS 1917 (Part 3)	5.0 % to 95.0 %
	Minerals	Fe ₂ O ₃	IS 1917 (Part 5) IS 488	0.01 % to 0.5 %
4.	Rock Phosphate,	LOI	IS 11224	1.0 % to 10.0 %
•••••	Apatite	SiO ₂	IS 11224	1.0 % to 10.0 %
		Total Phosphate	IS 11224	10.0 % to 40.0%
********		Al ₂ O ₃	IS 11224	0.50 % to 10.0 %
•••••		Fe ₂ O ₃	IS 11224	0.50 % to 10.0 %
		MgO	IS 11224	0.50 % to 10.0 %
•••••		CaO	IS 11224	25.0 % to 46.0 %

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5.	Manganese Ore	SiO ₂	IS 1473	1.0 % to 15.0 %
		Fe ₂ O ₃	IS 1473	0.5 % to 22.5 %
		MnO ₂	IS 1473	0.5 % to 40.0 %
		P ₂ O ₅	IS 1473	0.015 % to 2.00 %
		TiO ₂	IS 2000 (Part 5)	0.5 % to 5.0 %
6.	Feldspar, Black	SiO ₂	IS 9749	1.0 % to 68.0 %
	Trap, Basalt	Al ₂ O ₃	IS 9749	1.0 % to 40.0 %
		Fe ₂ O ₃	IS 9749	0.2 % to 10.0 %
		MgO	IS 9749	2.0 % to 10.0 %
		CaO	IS 9749	2.0 % to 10.0 %
		Na₂O	IS 9749	0.4 % to 10.0 %
		K₂O	IS 9749	0.4 % to 10.0 %
7.	Baryte	Insoluble Minus silica, percentage by mass (BaSO ₄)	IS2881	20.0 % to 90.0 %

Laboratory Envirogreen Consultants (India) Pvt. Ltd., 1-B, Machhla Magra, Patel

Circle, Udaipur, Rajasthan

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			performed	

CHEMICAL TESTING

AT S	SITE			
I.	I. ATMOSPHERIC POLLUTION			
1.	Ambient Noise	Noise Level Leq dB (A)	IS 9989	40 dB(A) to 130 dB(A)