

Laboratory Earth Care Enviro Solutions Private Limited, Moradia House, 31-32, Shiv Ashish Industrial Estate Co. Op. Society-II, South Zone Road, Udhna Magadalla, Surat, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7843

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Last Amended on --

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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**CHEMICAL TESTING**

I.	POLLUTION & ENVIRONMENT			
1.	Waste Water (Industrial Effluent/ Sewage water)	pH	IS 3025 (Part 11)-1983 (RA 2017)	2 to 12
		Specific Conductance	IS 3025 (Part 14)-2013 (RA 2013)	(5 to 20000) µmohs/cm
		Total Suspended Solids	IS 3025 (Part 17)-1984 (RA 2017)	5 mg/L to 5000 mg/L
		Total Dissolved solids	IS 3025 (Part 16)-1984 (RA 2017)	10 mg/L to 10000 mg/L
		Temperature	IS 3025 (Part 9)-1984 (RA 2017)	1 °C to 80 °C
		Turbidity	IS 3025 (Part 10)-1984 (RA 2017)	2 NTU to 1000 NTU
		Acidity	IS 3025 (Part 22)-1986 (RA 2014)	10 mg/L to 1000 mg/L
		Chemical Oxygen Demand (COD)	APHA 23 <sup>rd</sup> ed. 2017, 5220 B	5 mg/L to 50,000 mg/L
		Chloride (Cl)	IS 3025 (Part 32)-1988 (RA 2014)	5 mg/L to 20000 mg/L
		Sulphate	APHA 23 <sup>rd</sup> ed. 2017, 4500-SO42-C	10 mg/L to 2000 mg/L
		Total Hardness	IS 3025 (Part 21)-2009 (RA 2014)	10 mg/L to 10000 mg/L
		Total Alkalinity	IS 3025 (Part 23)-1986 (RA 2014)	10 mg/L to 1000 mg/L
		Total Solids	IS 3025 (Part 15)-1984 (RA 2014)	5 mg/L to 10000 mg/L
	Total Fixed Solid	APHA 23 <sup>rd</sup> ed. 2017, 2540-E	5 mg/L to 5000 mg/L	

Battal Singh  
Convenor

N. Venkateswaran  
Program Manager

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		Total Volatile Solids	APHA 23 <sup>rd</sup> ed. 2017, 2540-E	5 mg/L to 5000 mg/L
		Settleable Matter	IS 3025 (Part 19)-1984 (RA 2017)	1 mg/L to 1000 mg/L
		Ammonia Nitrogen	IS 3025 (Part 34)-1988 (RA 2014)	5 mg/L to 100 mg/L
		Oil & Grease	IS 3025 (Part 39)-1991 (RA 2014)	5 mg/L to 5000 mg/L
		Color	APHA 23 <sup>rd</sup> ed. 2017, 2120-C	1 Hazen to 1000 Hazen
		Phenol	IS 3025 (Part 43)-1992 (RA 2014)	0.001 mg/L to 1.0 mg/L
		Biochemical Oxygen Demand (BOD)	IS 3025 (Part 44)-1993 (RA 2014)	1 mg/L to 30,000 mg/L
		Hexavalent Chromium (as Cr <sup>+6</sup> )	APHA 23 <sup>rd</sup> ed. 2017, 3500 Cr <sup>+6</sup> /B	0.03 mg/L to 20 mg/L
		Free Carbon Dioxide	APHA 23 <sup>rd</sup> ed. 2017, 4500-CO <sub>2</sub> /C	10 mg/L to 1000 mg/L
		Copper (as Cu)	IS 3025 (Part 42) 1992 (RA 2014)	0.02 mg/L to 5 mg/L
		Nickel (as Ni)	IS 3025 (Part 54) 2003, (RA 2014)	0.3 mg/L to 5 mg/L
		Lead (as Pb)	IS 3025 (Part 47) 1994 (RA 2014)	0.1 mg/L to 10 mg/L
		Zinc (as Zn)	IS 3025 (Part 49) 1994, (RA 2014)	0.01 mg/L to 2 mg/L
		Cadmium (as Cd)	IS 3025 (Part 41) 1992, (RA 2014)	0.05 mg/L to 2 mg/L
		Sodium (as Na)	IS 3025 (Part 45) 1993, (RA 2014)	0.2 mg/L to 200 mg/L
		Potassium (as K)	IS 3025 (Part 45) 1993, (RA 2014)	0.2 mg/L to 200 mg/L

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		Calcium (as Ca <sup>++</sup> )	IS 3025 (Part 40) 1991 (RA 2014)	1.0 mg/L to 2000 mg/L
		Magnesium (as Mg <sup>++</sup> )	APHA 23 <sup>rd</sup> ed. 2017,3500-Mg/B	1.0 mg/L to 1000 mg/l
		Total Chromium	IS 3025 (Part 52) 2003 (RA 2014)	0.03 mg/L to 20 mg/L
		Sodium Absorption Ratio (SAR)	Lab SOP No.:EESPL/SOP/WATER/45	1 to 50
		Boron (as B)	IS 3025 (Part 57) 2005 (RA 2017)	0.5 mg/L to 500 mg/L
		Organic Nitrogen	IS 3025 (Part 34) 1988 (RA 2014)	5 mg/L to 100 mg/L
2.	Water (Drinking Water/Surface Water/Ground Water)	pH	IS 3025 (Part 11)-1983 (RA 2017)	2 to 12
		Temperature	IS 3025 (Part 9)-1984 (RA 2017)	1 °C to 80 °C
		Color	APHA 23 <sup>rd</sup> ed. 2017,2120-C	1 Hazen to 1000 Hazen
		Specific Conductance	IS 3025 (Part 14)-2013 (RA 2013)	(5 to 20000) µmohs/cm
		Acidity	IS 3025 (Part 22)-1986 (RA 2014)	10 mg/L to 1000 mg/L
		Ammonia Nitrogen	IS 3025 (Part 34)-1988 (RA 2014)	5 mg/L to 100 mg/L
		Boron	IS 3025 (Part 57) 2005 (RA 2017)	0.5 mg/L to 500 mg/L
		Biochemical Oxygen Demand (BOD)	IS 3025 (Part 44)-1993 (RA 2014)	1.0 mg/L to 3000 mg/L
		Chlorine, Residual	APHA 23 <sup>rd</sup> ed. 2017,4500-ClO <sub>2</sub> -B	0.1 mg/L to 100 mg/L
		Calcium (as Ca <sup>++</sup> )	IS 3025 (Part 40)-1991 (RA 2017)	1.0 mg/L to 2000 mg/L

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		Chloride (Cl)	IS 3025 (Part 32)-1988 (RA 2017)	5 mg/L to 5000 mg/L
		Chemical Oxygen Demand (COD)	APHA 23 <sup>rd</sup> ed. 2017,5220 B	5 mg/L to 5000 mg/L
		Dissolved Oxygen (DO)	IS 3025 (Part 38)-1989 (RA 2014)	0.1 mg/L to 15 mg/L
		Copper (as Cu)	IS 3025 (Part 42) 1992 (RA 2014)	0.02 mg/L to 5 mg/L
		Nickel (as Ni)	IS 3025 (Part 54) 2003, (RA 2014)	0.3 mg/L to 5 mg/L
		Lead (as Pb)	IS 3025 (Part 47) 1994 (RA 2014)	0.1 mg/L to 10 mg/L
		Zinc (as Zn)	IS 3025 (Part 49) 1994, (RA 2014)	0.01 mg/L to 2 mg/L
		Cadmium (as Cd)	IS 3025 (Part 41) 1992, (RA 2014)	0.05 mg/L to 2 mg/L
		Sodium (as Na)	IS 3025 (Part 45) 1993, (RA 2014)	2 mg/L to 2000 mg/L
		Potassium (as K)	IS 3025 (Part 45) 1993, (RA 2014)	2 mg/L to 2000 mg/L
		Magnesium (as Mg)	APHA 23 <sup>rd</sup> ed. 2017, 3500-Mg/B	1.0 mg/L to 1000 mg/l
		Phenol	IS 3025 (Part 43)-1992 (RA 2014)	0.001 mg/L to 1.0 mg/L
		Silica (as SiO <sub>2</sub> )	IS 3025 (Part 35)-1988 (RA 2014)	0.001 mg/L to 500 mg/L
		Sulphate	APHA 23 <sup>rd</sup> ed. 2017, 4500-SO42-C	5 mg/L to 2000 mg/L
		Sodium Absorption Ratio (SAR)	Lab SOP No.:EESPL/SOP/WATER/45	1 to 50
		Settleable Matter	IS 3025 (Part 19)-1984 (RA 2017)	2 mg/L to 1000 mg/L

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		Turbidity	IS 3025 (Part 10)-1984 (RA 2017)	2 NTU to 999 NTU
		Total Dissolved solids	IS 3025 (Part 16)-1984 (RA 2017)	10 mg/L to 10000 mg/L
		Total Suspended solids	IS 3025 (Part 17)-1984 (RA 2017)	5 mg/L to 5000 mg/L
		Total Solids	IS 3025 (Part 15)-1984 (RA 2014)	5 mg/L to 10000 mg/L
		Total Hardness	IS 3025 (Part 21) 2014	10 mg/L to 1500 mg/L
		Total Alkalinity	IS 3025 (Part 23)-1986 (RA 2014)	10 mg/L to 1000 mg/L
<b>II.</b>	<b>ATMOSPHERIC POLLUTION</b>			
<b>1.</b>	<b>Ambient Air</b>	Particulate Matter (PM10)	IS 5182 (Part 23):2006 (RA 2017)	10.0µg/m <sup>3</sup> to 1000 µg/m <sup>3</sup>
		Particulate Matter (PM2.5)	Lab SOP No.:EESPL/SOP/AA/02 DT:15/03/2018 & Based on CPCB Guideline, Vol-1 NAAQMS/36/2012-13	10.0µg/m <sup>3</sup> to 500 µg/m <sup>3</sup>
		Sulfur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2)-2001 (RA 2017)	4 µg/m <sup>3</sup> to 1000 µg/m <sup>3</sup>
		Nitrogen Oxide (NO <sub>x</sub> )	IS 5182 (Part 6)-2016 (RA 2017)	6 µg/m <sup>3</sup> to 500 µg/m <sup>3</sup>
<b>2.</b>	<b>Stack Emission</b>	Particulate Matter (PM)	IS 11255(Part 1):1985 (RA 2014)	1 mg/Nm <sup>3</sup> to 500 mg/Nm <sup>3</sup>
		Sulfur Dioxide (SO <sub>2</sub> )	IS 11255(Part 2):1985 (RA 2014)	1 mg/Nm <sup>3</sup> to 500 mg/Nm <sup>3</sup>
		Nitrogen Oxide (NO <sub>x</sub> )	IS 11255(Part 7):2005 (RA 2017)	2 mg/Nm <sup>3</sup> to 400 mg/Nm <sup>3</sup>
		Ammonia (NH <sub>3</sub> )	IS 11255(Part 6):1999 (RA 2014)	0.3 mg/Nm <sup>3</sup> to 100 mg/Nm <sup>3</sup>

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Program Manager

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**CHEMICAL TESTING**

<b><u>AT SITE</u></b>				
I.	<b>ATMOSPHERIC POLLUTION</b>			
1.	<b>Ambient Air</b>	Noise level	IS 9589:1981 (RA 2008)	30 dB to 130 dB

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