

Laboratory Environmental Engineering Laboratory, M.S. Patel Department of Civil Engineering, Charusat Campus-Changa, Off. Nadiad-Petlad Highway, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-8130

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Validity 26.11.2018 to 25.11.2020

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.	ATMOSPHERIC POLLUTION			
1.	Ambient Air	Particulate Matter PM ₁₀	IS 5182 (Part 23): 2012 Gravimetric Method	10 µg/m ³ to 1000 µg/m ³
		Particulate Matter PM _{2.5}	(EEL/SOP-32 B & SOP 33) Issue No: 01 dated 01/01/2018 Based on USEPA CFR 40 Part 50	10 µg/m ³ to 200 µg/m ³
		Sulphur Dioxide	IS 5182 (Part 2): 2001 (RA 2012)	4 µg/m ³ to 1050 µg/m ³
		Oxides of Nitrogen	IS 5182 (Part 6): (RA 2012) IS 11255 (Part 1): 1985 (RA 2009)	5.0 µg/m ³ to 420 µg/m ³
2.	Stack Emission	Particulate Matter	IS 11255(Part 2): 1985 (RA 2009)	10 mg/Nm ³ to 500 mg/Nm ³
		Sulphur Dioxide	IS 11255 (Part 7): 201	5 mg/N m ³ to 1000 mg/Nm ³
		Oxides of Nitrogen	IS 4758:1968 (RA 2017)	5.0 mg/Nm ³ to 400 mg/Nm ³
3.	Noise Level (Excluding Vibration)	Noise Level Measurement (DG Set)	IS 4758:1968 (RA 2017)	30 dB to 130 dB
II.	POLLUTION & ENVIRONMENT			
1.	Effluents/Waste Water (Domestic & Industrial Waste Water)	Temperature	APHA (23rd Edition 2017) 2550 B	2 °C to 60 °C
		Colour	APHA (23rd Edition 2017) 2120 C	2 to 500 Co-Pt Units
		Turbidity	APHA (23rd Edition 2017) 2130 B	1 NTU to 800 NTU

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		pH	APHA (23rd Edition 2017) 4500 H+ B	2 to 12
		Electrical Conductivity	APHA (23rd Edition 2017) 2510 B	10 µS/cm to 200000 µS/cm
		Total Dissolved Solids	APHA (23rd Edition 2017) 2540 C	10 mg/L to 100000 mg/L
		Total Suspended Solids	APHA (23rd Edition 2017) 2540 D	5 mg/L to 1000 mg/L
		Total Solids	APHA (23rd Edition 2017) 2540 B	5 mg/L to 100000 mg/L
		Volatile & Fixed Solids	APHA (23rd Edition 2017) 2540 E	5 mg/L to 1000 mg/L
		Phosphates	APHA (23rd Edition 2017) 4500 P D	1 mg/L to 100 mg/L
		Dissolved Oxygen	APHA (23rd Edition 2017) 4500 O C	1 mg/L to 8 mg/L
		Sulphate	APHA (23rd Edition 2017) 4500-SO42- E	1 mg/L to 200 mg/L
		Sulphide	APHA (23rd Edition 2017) 4500 S2- F	0.1 mg/L to 10 mg/L
		Nitrate Nitrogen	APHA (23rd Edition 2017) 4500 NO ₃ , - B	10 mg/L to 100 mg/L
		Alkalinity	APHA (23rd Edition 2017) 2320 B	10 mg/L to 1000 mg/L
		Acidity	APHA (23rd Edition 2017) 2310 B	05 mg/L to 1000 mg/L
		Chloride	APHA (23rd Edition 2017) 4500 Cl- B	10 mg/L to 1000 mg/L
		Free Residual Chlorine	APHA (23rd Edition 2017) 4500 Cl	1 mg/L to 5 mg/L
		Oil & Grease	APHA (23rd Edition 2017) 5520 B	2 mg/L to 100 mg/L

Nabo Gopal Roy
Convenor

Avijit Das
Program Manager

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		Phenolic Compound	APHA (23rd Edition 2017) 5530 D	1 mg/L to 10 mg/L
		Biochemical Oxygen Demand	APHA (23rd Edition 2017) 5210 B	5 mg/L to 1000 mg/L
		Chemical Oxygen Demand	APHA (23rd Edition 2017) 5220 C / 5220 B)	10 mg/L to 5000 mg/L
		Sodium	APHA (23rd Edition 2017) 3500 Na B	2 mg/L to 1000 mg/L
		Potassium	APHA (23rd Edition 2017) 3500 K B	1 mg/L to 1000 mg/L
		Calcium	APHA (23rd Edition 2017) 3500 B	5 mg/L to 500 mg/L
2.	Wastes (Liquid/Slurry/ Sludge/ Solid/ Semi-Solid)	pH Value	EPA SW 846 Method 9045 C	2 to 12
		Loss on Drying @ 105 °C	APHA (23rd Edition 2017) 2540 G	0.1 % to 80 %
		Loss on Ignition @ 550 °C	APHA (23rd Edition 2017) 2540 G	0.1 % to 95 %
III.	WATER			
1.	Surface Water, Ground Water & Drinking Water	pH	APHA (23rd Edition 2017) 4500 H+B	4 to 10
		Color	APHA (23rd Edition 2017) 2120 C	2 - 100 Co-Pt Units
		Total Dissolved Solids	APHA (23rd Edition 2017) 2540 C	5 mg/L to 1000 mg/L
		Total Suspended Solids	APHA (23rd Edition 2017) 2540 D	5 mg/L to 150 mg/L
		Total Solids	APHA (23rd Edition 2017) 2540 B	5 mg/L to 10000 mg/L
		Volatile & Fixed Solids	APHA (23rd Edition 2017) 2540 E	5 mg/L to 3000 mg/L

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		Turbidity	APHA (23rd Edition 2017) 2130 B	1 NTU to 100 NTU
		Electric Conductivity	APHA (23rd Edition 2017) 2510 B	05 µS/cm to 10000 µS/cm
		Phosphate	APHA (23rd Edition 2017) 4500 P D	1 mg/L to 10 mg/L
		Dissolved Oxygen	APHA (23rd Edition 2017) 4500 O C	0.1 mg/L to 10 mg/L
		Sulphates	APHA (23rd Edition 2017) 4500-4500-SO42- E	1 mg/L to 500 mg/L
		Free Residual Chlorine	APHA (23rd Edition 2017) 4500 Cl	0.1 mg/L to 5.0 mg/L
		Sulphides	APHA (23rd Edition 2017) 4500 S2- F	0.1 mg/L to 10 mg/L
		Chloride	APHA (23rd Edition 2017) 4500 Cl- B	10 mg/L to 1000 mg/L
		Total Hardness	APHA (23rd Edition 2017) 2340 C	2.0 mg/L to 500 mg/L
		Calcium Hardness as CaCO3	APHA (23rd Edition 2017) 3500 B	1.0 mg/L to 200 mg/L
		Magnesium	APHA (23rd Edition 2017) 3500 Mg B	1.0 mg/L to 200 mg/L
		Nitrate Nitrogen	APHA (23rd Edition 2017) 4500 NO3, - B	0.1 mg/L to 50 mg/L
		Sodium	APHA (23rd Edition 2017) 3500 Na B	2 mg/L to 100 mg/L
		Potassium	APHA (23rd Edition 2017) 3500 K B	1 mg/L to 100 mg/L
		Calcium	APHA (23rd Edition 2017) 3500 Ca B	30 mg/L to 300 mg/L
		Alkalinity	APHA (23rd Edition 2017) 2320 B	5 mg/L to 600 mg/L

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		Acidity	APHA (23rdEdition 2017) 2310 B	05 mg/L to 800 mg/L
		Silica	APHA (23rdEdition 2017) 4500 SiO ₂ C	1 mg/L to 20 mg/L