

Laboratory Cleenviron Private Limited, D-124, Koelnagar, Rourkela, Odisha
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number TC-6816 (in lieu of T-2082) **Page 1 of 7**
Validity 09.11.2017 to 08.11.2019 **Last Amended on** 18.01.2018

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 /Fugitive Emissions	Suspended Particulate Matter	IS : 5182 (Part – 4) 1999, RA 2014	5 µg/m ³ to 800 µg/m ³
		PM 2.5	CPL/SOP/01/PM2.5, Issue No: 02, dtd: 23.10.2017	5 µg/m ³ to 200 µg/m ³
		PM 10	IS: 5182 (Part – 23) 2006, RA 2017 Cyclonic Flow Technique	5 µg/m ³ to 1000 µg/m ³
		PM 10	EN 12341, 1998 Low Volume Sampler	5 µg/m ³ to 500 µg/m ³
		Sulphur Dioxide	IS:5182 (Part – 2) 2001, RA 2017	3 µg/m ³ to 1050 µg/m ³
		Nitrogen Oxides	IS: 5182 (Part – 6) 2006, RA 2017	6 µg/m ³ to 750 µg/m ³
		Ammonia	CPL/SOP/01/NH ₃ , Issue No: 02, dtd: 23.10.2017	20 µg/m ³ to 700 µg/m ³
		Ozone	CPL/SOP/01/O ₃ , Issue No: 02, dtd: 23.10.2017	19.6 µg/m ³ to 1000 µg/m ³
		Lead	IS:5182 (Part – 22) 2004, RA 2014	0.4 µg/m ³ to 2 µg/m ³
		Arsenic	CPL/SOP/01/As, Issue No: 02, dtd: 23.10.2017	0.1 ng/m ³ to 0.4 ng/m ³
Nickel	CPL/SOP/01/Ni, Issue No: 02, dtd: 23.10.2017	12 ng/m ³ to 284 ng/m ³		
	Benzene	IS : 5182 (Part – 11) 2006, RA 2017	0.5 µg/m ³ to 1000 µg/m ³	
2.	Stack Emissions	Suspended Particulate Matter	IS:11255 (Part – 1) 1985, RA 2014	5 mg/Nm ³ to 5000 mg/Nm ³
		Nitrogen Oxide	IS: 11255 (Part – 7) 2005, RA 2017	2 mg/Nm ³ to 400 mg/Nm ³
		Sulfur-di-oxide	IS:11255 (Part – 2) 1985, RA 2014	4 mg/Nm ³ to 1000 mg/Nm ³

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Certificate Number TC-6816 (in lieu of T-2082)

Page 2 of 7

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3.	Ambient Noise Level	Sound Pressure Level Leq (Ambient)	IS: 9989-1981, RA 2008 and Instrument Manufacturer's Manual	30 to 130dB(A)
4.	Source Noise Level	Sound Pressure Level Leq (Source)	IS: 4758-1968, Reaffirmed 2017 and Instrument Manufacturer's Manual	30 dB to 130dB
II.	WATER			
1.	Surface Water/ Ground Water/Drinking Water/Industrial Water/Irrigation Water	Turbidity	APHA 23 rd Edition, 2017, 2130 B	0.1 NTU to 1000NTU
		pH	APHA 23 rd Edition, 2017, 4500 H ⁺ B	1 to 14
		Total Hardness	APHA 23 rd Edition, 2017, 2340 C	1 mg/l to 2000 mg/l
		Sulfate	APHA 23 rd Edition, 2017, 4500 SO ₄ ²⁻ E	0.5 mg/l to 300 mg/l
		Chloride	APHA 23 rd Edition, 2017, 4500 Cl ⁻ B	2 mg/l to 2000 mg/l
		Total Dissolved Solid	APHA 23 rd Edition, 2017, 2540 B	1 mg/l to 4000 mg/l
		Phosphate	APHA 23 rd Edition, 2017, 4500 P E	0.01 mg/l to 3 mg/l
		Alkalinity	APHA 23 rd Edition, 2017, 2320 B	1 mg/l to 500 mg/l
		Manganese	APHA 23 rd Edition, 2017, 3500 Mn B	0.05 mg/l to 2.5 mg/l
		Hexavalent Chromium	APHA 23 rd Edition, 2017, 3500 Cr B	0.01 mg/l to 2 mg/l
		Iron	APHA 23 rd Edition, 2017, 3500 Fe B	0.01 mg/l to 2 mg/l
	Calcium	APHA 23 rd Edition, 2017, 3500 Ca B	1 mg/l to 2000 mg/l	
	Magnesium	APHA 23 rd Edition, 2017, 3500 Mg B By Calculation	1 mg/l to 2000 mg/l	

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Convenor

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Page 3 of 7

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		Sodium	APHA 23 rd Edition, 2017, 3500 Na B	0.1 mg/l to 100 mg/l
		Potassium	APHA 23 rd Edition, 2017, 3500 K B	0.1 mg/l to 100 mg/l
		Acidity	APHA 23 rd Edition, 2017, 2310 B	1 mg/l to 500 mg/l
		Total Suspended Solids	APHA 23 rd Edition, 2017, 2540 D	2.5 mg/l to 10000 mg/l
		Sulphide	APHA 23 rd Edition, 2017, 4500 S ²⁻ D	0.02 mg/l to 3.5 mg/l
		Conductivity	APHA 23 rd Edition, 2017, 2510 B	0.01 μ S/cm to 20000 μ S/cm
		Total Chromium	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Lead	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Zinc	APHA 23 rd Edition, 2017, 3111 B	0.02 mg/l to 10.0 mg/l
		Copper	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Nickel	APHA 23 rd Edition, 2017, 3111 B	0.25 mg/l to 10.0 mg/l
		Cadmium	APHA 23 rd Edition, 2017, 3111 B	0.05 mg/l to 10.0 mg/l
		Iron	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Manganese	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Fluoride	APHA 23 rd Edition, 2017 4500 F D	0.05 mg/l to 2 mg/l
		Nitrate	APHA 23 rd Edition, 2017 4500 NO ₃ B	0.5 mg/l to 6 mg/l
		Nitrite	APHA 23 rd Edition, 2017 4500 NO ₂ B	0.01 mg/l to 2 mg/l
		Ammonical Nitrogen NH ₄ - N	APHA 23 rd Edition, 2017 4500 NH ₃ C	0.1 mg/l to 100 mg/l

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Page 4 of 7

Validity **09.11.2017 to 08.11.2019**

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		Total Kjeldhal Nitrogen	APHA 23 rd Edition, 2017 4500 N _{org} B	0.1 mg/l to 100 mg/l
		Residual Free Chlorine	APHA 23 rd Edition, 2017 4500 Cl B	1 mg/l to 40 mg/l
		Phenol	APHA 23 rd Edition, 2017 5530 D	0.1 mg/l to 0.5 mg/l
		Arsenic	APHA 23 rd Edition, 2017, 3114 B	0.002 mg/l to 2.0 mg/l
		Mercury	APHA 23 rd Edition, 2017, 3112 B	0.01 mg/l to 2.0 mg/l
		Selenium	APHA 23 rd Edition, 2017, 3114 C	0.01 mg/l to 2.0 mg/l
III.	POLLUTION & ENVIRONMENT			
1.	Waste Water (Effluent/ Sewage)	pH	APHA 23 rd Edition, 2017, 4500 H ⁺ B	1 to 14
		Total Dissolved Solids	APHA 23 rd Edition, 2017, 2540 B	1 mg/l to 4000 mg/l
		Total Suspended Solids	APHA 23 rd Edition, 2017, 2540 D	2.5 mg/l to 10000 mg/l
		Conductivity	APHA 23 rd Edition, 2017, 2510 B	0.01 μS/cm to 20000 μS/cm
		Turbidity	APHA 23 rd Edition, 2017, 2130 B	0.1 NTU to 1000 NTU
		Dissolved Oxygen	APHA 23 rd Edition, 2017, 4500 O G	1 mg/l to 10 mg/l
		Dissolved Oxygen	IS: 3025 (Part 38) 1989, RA 2014	0.1 mg/l to 10 mg/l
		Oil & Grease	IS: 3025 (Part 39) 1991, RA 2014	0.1 mg/l to 100 mg/l
		Bio Chemical Oxygen Demand (BOD) 5 Days at 20°C	APHA 23 rd Edition, 2017, 5210 D Respirometric method	1 mg/l to 10000 mg/l
		Biochemical Oxygen Demand (BOD) 3 Days at 27°C	IS: 3025 (Part 44) 1993, RA 2014	0.1 mg/l to 10000 mg/l

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Page 5 of 7

Validity 09.11.2017 to 08.11.2019

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		Chemical Oxygen Demand (COD)	APHA 23 rd Edition, 2017, 5220 D	4 mg/l to 12000 mg/l
		Manganese	APHA 23 rd Edition, 2017, 3500 Mn B	0.05 mg/l to 2.5 mg/l
		Hexavalent Chromium	APHA 23 rd Edition, 2017, 3500 Cr B	0.01 mg/l to 2 mg/l
		Iron	APHA 23 rd Edition, 2017, 3500 Fe B	0.01 mg/l to 2 mg/l
		Sulfate	APHA 23 rd Edition, 2017, 4500 SO ₄ ²⁻ E	0.5 mg/l to 300 mg/l
		Chloride	APHA 23 rd Edition, 2017, 4500 Cl ⁻ D	2 mg/l to 2000 mg/l
		Phosphate	APHA 23 rd Edition, 2017, 4500 P E	0.01 mg/l to 3 mg/l
		Sulfide	APHA 23 rd Edition, 2017, 4500 S ²⁻ D	0.02 mg/l to 3.5 mg/l
		Acidity	APHA 23 rd Edition, 2017, 2310-B	1 mg/l to 500 mg/l
		Alkalinity	APHA 23 rd Edition, 2017, 2320 B	1 mg/l to 500 mg/l
		Calcium	APHA 23 rd Edition, 2017, 3500 Ca B	1 mg/l to 2000 mg/l
		Magnesium	APHA 23 rd Edition, 2017, 3500 Mg B By Calculation	1 mg/l to 2000 mg/l
		Sodium	APHA 23 rd Edition, 2017, 3500 Na B	0.1 mg/l to 100 mg/l
		Potassium	APHA 23 rd Edition, 2017, 3500 K B	0.1 mg/l to 100 mg/l
		Total Chromium	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Lead	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Zinc	APHA 23 rd Edition, 2017, 3111 B	0.02 mg/l to 10.0 mg/l
		Copper	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l

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Page 6 of 7

Validity 09.11.2017 to 08.11.2019

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		Nickel	APHA 23 rd Edition, 2017, 3111 B	0.25 mg/l to 10.0 mg/l
		Cadmium	APHA 23 rd Edition, 2017, 3111 B	0.05 mg/l to 10.0 mg/l
		Iron	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Manganese	APHA 23 rd Edition, 2017, 3111 B	0.1 mg/l to 10.0 mg/l
		Fluoride	APHA 23 rd Edition, 2017 - 4500 F D	0.05 mg/l to 2 mg/l
		Nitrate	APHA 23 rd Edition, 2017- 4500 NO ₃ B	0.5 mg/l to 6 mg/l
		Nitrite	APHA 23 rd Edition, 2017 – 4500 NO ₂ B	0.01 mg/l to 2 mg/l
		Ammonical Nitrogen NH ₄ - N	APHA 23 rd Edition, 2017 – 4500 NH ₃ C	0.1 mg/l to 100 mg/l
		Total Kjeldhal Nitrogen	APHA 23 rd Edition, 2017 – 4500 N _{org} B	0.1 mg/l to 100 mg/l
		Residual Free Chlorine	APHA 23 rd Edition, 2017 – 4500 Cl B	1 mg/l to 40 mg/l
		Phenols	APHA 23 rd Edition, 2017 – 5530 D	0.1 mg/l to 0.5 mg/l
		Arsenic	APHA 23 rd Edition, 2017, 3114 B	0.002 mg/l to 2.0 mg/l
		Mercury	APHA 23 rd Edition, 2017, 3112 B	0.01 mg/l to 2.0 mg/l
		Selenium	APHA 23 rd Edition, 2017, 3114 C	0.01 mg/l to 2.0 mg/l
2.	Soil/Sediments	pH Value	IS:2720 (Part 26) 1987, RA 2011	1 to 14
		Electrical Conductivity (Soil Salinity)	IS: 14767, 2000 RA 2016	0.05 μS/cm to 20000 μS/cm
		Organic Carbon	IS: 2720 (Part 22), 1972 RA 2015	0.5% to 10%
		Available Potassium	CPL/SOP/03/K, Issue No: 03, dtd: 23.10.2017	10 kg/ha to 1200 kg/ha

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Page 7 of 7

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		Total Nitrogen	IS: 14684, 1999 RA 2014	10 kg/ha to 1400 kg/ha
		Available Phosphorus	CPL/SOP/03/P, Issue No: 03, dtd: 23.10.2017	5 kg/ha to 2567 kg/ha
		Zinc	CPL/SOP/03/Zn, Issue No: 03, dtd: 23.10.2017	0.1 mg/kg to 10.0 mg/kg
		Copper	CPL/SOP/03/Cu Issue No: 03, dtd: 23.10.2017	0.2 mg/kg to 10.0 mg/kg
		Iron	CPL/SOP/03/Fe Issue No: 03, dtd: 23.10.2017	1 mg/kg to 10.0 mg/kg
		Manganese	CPL/SOP/03/Mn Issue No: 03, dtd: 23.10.2017	1 mg/kg to 10.0 mg/kg

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