

Laboratory **Netel (India) Ltd., W-408, TTC Industrial Area, Rabale MIDC, Rabale Navi Mumbai, Maharashtra**
 Accreditation Standard **ISO/IEC 17025: 2005**
 Certificate Number **TC-6709** Page 1 of 12
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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	PM ₁₀	IS 5182 Part 23: 2006 RA 2017	10 µg/m ³ to 1000 µg/m ³
		PM _{2.5}	Lab SOP No. NIL/AIR SOP/03, Issue No:1, Dated : 01:10:2014 Based on CPCB Guideline Volume-1, 2011	5 µg/m ³ to 100 µg/m ³
		SO ₂	IS 5182 Part 2 : 2001 RA 2017	6.5 µg/m ³ to 500 µg/m ³
		NO ₂	IS 5182 Part : 2006 RA 2017	4.0 µg/m ³ to 500 µg/m ³
		Lead (Pb)	APHA – Air III rd Edition: 1989 Method No. 822	0.1 µg/m ³ to 1000 µg/m ³
		Nickel (Ni)	APHA – Air III rd Edition: 1989 Method No. 822	0.1 ng/m ³ to 1000 ng/m ³
		Benzo (a) Pyrene	IS 5182 Part 12: 2004 RA 2014	0.5 ng/m ³ to 100 ng/m ³
		Benzene, Toluene & Xylene	IS 5182 Part 11, Method 1: 2006 RA 2017	1 µg/m ³ to 1000 µg/m ³
		Carbon Monoxide	IS 5182 Part 10, Method 4: 1999 RA 2014	0.1 mg/m ³ to 190 mg/m ³
II.	POLLUTION & ENVIRONMENT			
1.	Soil	pH	IS : 2720 (Part 26) :1987 RA 2002	2 to 12
		Electrical Conductivity	IS : 14767: 2000	10 µmhos/cm to 20000 µmhos/cm
		Chloride as Cl	Lab SOP No. NIL/SOP/03 Issue No:01,	10 mg/kg to 10,000 mg/kg

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			Dated:16/09/2013 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	
		Sulphate as SO ₄	Lab SOP No. NIL/SOP/04 Issue No:01, Dated:16/09/2013 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	10 mg/kg to 1000 mg/kg
		Organic Matter	Lab SOP No. NIL/SOP/05 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	0.1% to 30%
		Organic Carbon	Lab SOP No. NIL/SOP/05 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	0.1% to 30%
		Moisture Content	Lab SOP No. NIL/SOP/06 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	0.1% to 45%
		Cation Exchange Capacity	Lab SOP No. NIL/SOP/07 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	1 meq/100gm to 30meq/100gm
		Sodium Absorption Ratio	IS11624-1986 RA 2001	1 to 30

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		Specific Gravity	ASTM D854:1998	1 to 3
		Calcium	Lab SOP No. NIL/SOP/08 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	50 mg/kg to 50,000 mg/kg
		Magnesium	Lab SOP No. NIL/SOP/08 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	50 mg/kg to 50,000 mg/kg
		Total Hardness	Lab SOP No. NIL/SOP/09 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	50 mg/kg to 50,000 mg/kg
		Copper (Cu)	EPA 3050 B :1996 Air-Acetylene flameAAS Method	5 mg/kg to 1000 mg/kg
		Nickel (Ni)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	5 mg/kg to 1000 mg/kg
		Lead (Pb)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	10 mg/kg to 500 mg/kg
		Cadmium (Cd)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	5 mg/kg to 1000 mg/kg
		Chromium (Cr)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	10 mg/kg to 500 mg/kg
		Zinc (Zn)	EPA 3050 B : 1996 Air-Acetylene flameAAS	10 mg/kg to 10,000 mg/kg

Ruchi Guntuku
 Convenor

N. Venkateswaran
 Program Director

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			Method	
		Iron (Fe)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	10 mg/kg to 10,000 mg/kg
		Cobalt (Co)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	10 mg/kg to 500 mg/Kg
		Manganese (Mn)	EPA 3050 B : 1996 Air-Acetylene flameAAS Method	5 mg/kg to10,000 mg/kg
		Sodium (Na)	Lab SOP No. NIL/SOP/10 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	10 mg/kg to 10,000 mg/kg
		Potassium (K)	Lab SOP No. NIL/SOP/10 Issue No:01, Dated:01/07/2014 Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011	10 mg/kg to 10,000 mg/kg
2.	Waste Water (Sewage & Effluent)	pH	APHA-4500-H ⁺ -B, 23 rd Edition 2017	2 to 12
		Conductivity	APHA 2510-B 23 rd Edition 2017	5 µmhos/cm to 15000 µmhos/cm
		Turbidity	APHA 2130-B 23 rd Edition 2017 Nephelometric method	0.1 NTU to 35 NTU
		Alkalinity	APHA 2320-B 23 rd Edition 2017	5 mg/l to 1000 mg/l
		Chloride as Cl	APHA 4500-Cl-B 23 rd Edition 2017 Argentometric method	2.5 mg/l to 1000 mg/l
		Sulphate as SO ₄	APHA 4500-SO ₄ (E)	1 mg/l to 400 mg/l

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			23 rd Edition 2017 Turbidity method	
		Phosphorus(Dissolve Phosphate as P)	APHA 4500-P (C) 23 rd Edition 2017	1 mg/l to 100 mg/l
		Total Dissolved Solids (TDS)	APHA 2350-C 23 rd Edition 2017	5 mg/l to 10000mg/l
		Total Suspended Solids (TSS)	APHA 2350-D 23 rd Edition 2017	5 mg/l to 5000mg/l
		Total Kjeldhal Nitrogen (TKN)	APHA 4500-N-C 23 rd Edition 2017	1.5 mg/l to 250 mg/l
		Ammonical Nitrogen	IS : 3025 (Part 34) : 1988 RA 2014 Nesslerization method	0.4 mg/l to 100 mg/l
		Chemical Oxygen Demand (COD)	APHA 5220-B 23 rd Edition 2017	10 mg/l to 10000mg/l
		Biochemical Oxygen Demand (BOD) 3 days 27°C	IS 3025 (Part 44) : 1993 RA 2014	5 mg/l to 600 mg/l
		Fluoride	APHA 4500-F-D 23 rd Edition 2017 SPANDS method	0.2 mg/l to 20mg/l
		Hexavalent Chromium	APHA 3500-Cr-B 23 rd Edition 2017	0.05 mg/l to 50mg/l
		Nitrate	APHA 4500-NO ₃ -B 23 rd Edition 2017 Chromotophic Acid method	0.5 mg/l to 50mg/l
		Iron (Fe)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 15 mg/l
		Cadmium (Cd)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.03 mg/l to 15 mg/l

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Copper (Cu)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.04 mg/l to 25 mg/l
		Manganese (Mn)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 25 mg/l
		Nickel (Ni)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.01 mg/l to 25 mg/l
		Lead (Pb)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.05 mg/l to 25 mg/l
		Cobalt (Co)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.01 mg/l to 50 mg/l
		Silver (Ag)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.05 mg/l to 10 mg/l
		Zinc (Zn)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.05 mg/l to 50 mg/l
		Chromium (Cr)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.01 mg/l to 50 mg/l
		Sodium (Na)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 100 mg/l

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		Potassium (K)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 100 mg/l
		Boron	IS 3025(Part 57) :2017 APHA 4500-B-B 23 rd Edition 2017 Curcumin method	0.4 mg/l to 25 mg/l
III.	WATER			
1.	Ground & Surface Water	pH	IS 3025 (part 11) 1983, RA 2012 APHA 4500-H-B, 23 rd Edtn.2017	4 to 10
		Conductivity	IS 3025(Part 14)-1984, APHA 2510-B 23 rd Edition 2017	5 µmhos/cm to 15000 µmhos/cm
		Turbidity	IS 3025(part 10) 1984, RA 2006, APHA 2130-B 23 rd Edition 2017 Nephelometric method	0.1 NTU to 35 NTU
		Total Hardness	IS 3025(part 21) 2014, APHA 2340-C, 23 rd Edition 2017	5 mg/l to 1000 mg/l
		Calcium	IS 3025(part 40) 1991, RA 2009, APHA 3500-Ca-B, 23 rd Edition 2017	5 mg/l to 500 mg/l
		Magnesium	IS 3025(part 21) & IS 3025(part 40) 1991,RA 2014 Calculation method: APHA 3500 Mg-B 23 rd Edition 2017	5 mg/l to 500 mg/l
		Alkalinity	IS 3025(part 23) 1986,	5 mg/l to 1000 mg/l

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			RA 2014 APHA 2320-B 23 rd Edition 2017	
		Chloride as Cl	IS 3025 (part 32) 1988, RA 2014, APHA 4500-Cl-B, 23 rd Edition 2017 Argentometric method	2.5 mg/l to 1000 mg/l
		Sulphate as SO ₄	APHA 4500-SO ₄ (E) 23 rd Edition 2017 Turbidity method	1 mg/l to 400 mg/l
		Phosphorus (Dissolve Phosphate as P)	IS 3025 (part 31)1988, RA 2014 APHA 4500-P (C) 23 rd Edition 2017	1 mg/l to 100 mg/l
		Total Dissolved Solids (TDS)	IS : 3025 (Part 16) : 1984 RA 2014, APHA 2540-C 23 rd Edition 2017	5 mg/l to 10000mg/l
		Total Suspended Solids (TSS)	IS 3025(Part 17) : 1984 RA 2012, APHA 2540-D 23 rd Edition 2017	5 mg/l to 500mg/l
		Total Kjeldhal Nitrogen (TKN)	IS : 3025 (Part 34) :1988 RA 2014, APHA 4500-N-C 23 rd Edition 2017	1.5 mg/l to 200 mg/l
		Ammonical Nitrogen	IS : 3025 (Part 34) : 1988 RA 2014 Nesslerization method	0.4 mg/l to 60 mg/l
		Chemical Oxygen Demand (COD)	IS 3025(Part 58) : 2012 , APHA 5220-B 23 rd Edition 2017	1 mg/l to 500 mg/l
		Biochemical Oxygen Demand (BOD) 3 days 27 ^o C	IS 3025 (Part 44) : 1993 RA 2014	1 mg/l to 250 mg/l

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		Fluoride	IS 3025 (Part 60) : 2008, APHA 4500-F-D 23 rd Edition 2017 SPANDS method	0.2 mg/l to 20 mg/l
		Hexavalent Chromium	APHA 3500-Cr-B 23 rd Edition 2017	0.05 mg/l to 50mg/l
		Nitrate	IS : 3025 (Part 34) :1988 RA 2014, APHA 4500-NO3-B 23 rd Edition 2017 Chromotophic Acid method	0.5 mg/l to 50mg/l
		Boron	IS 3025(Part 57) :2017 APHA 4500-B-B 23 rd Edition 2017 Curcumin method	0.4 mg/l to 25 mg/l
		Iron (Fe)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 10 mg/l
		Cadmium (Cd)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.005 mg/l to 10mg/l
		Copper (Cu)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.04 mg/l to 25 mg/l
		Manganese (Mn)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 15 mg/l
		Nickel (Ni)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.02 mg/l to 10 mg/l
		Lead (Pb)	APHA 3111 B,	0.05 mg/l to 10 mg/l

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			23 rd Edition 2017 Air-Acetylene flame AAS method	
		Cobalt (Co)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.01 mg/l to 10 mg/l
		Silver (Ag)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.05 mg/l to 10 mg/l
		Zinc (Zn)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 15 mg/l
		Chromium (Cr)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.04 mg/l to 15 mg/l
		Sodium (Na)	IS 3025(Part45):1993 RA 2014 APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 10 mg/l 0.1 mg/l to 100 mg/l
		Potassium (K)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method IS 3025 (Part45):1993 RA 2014	0.1 mg/l to 10 mg/l 0.1 mg/l to 100 mg/l
2.	Drinking Water	pH	IS 3025 (part 11) 1983, RA 2012	4 to 10
		Turbidity	IS 3025(part 10) 1984, RA 2006 Nephelometric method	0.1 NTU to 35 NTU

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		Total Hardness (as CaCO ₃)	IS 3025 (part 21) 2014, EDTA method	5 mg/l to 1000 mg/l
		Calcium as Ca	IS 3025 (part 40) 1991, RA 2009 EDTA method	5 mg/l to 500 mg/l
		Magnesium as Mg	IS 3025(part 46) 1999, RA 2014	5 mg/l to 500 mg/l
		Alkalinity	IS 3025(part 23) 1986, RA 2014	5 mg/l to 1000 mg/l
		Chloride as Cl	IS 3025 (part 32) 1988, RA 2014 Argentometric method	2.5 mg/l to 1000 mg/l
		Sulphate as SO ₄	IS 3025 (part 24) 1988, RA 2014 Turbidity method	1 mg/l to 400 mg/l
		Total Dissolved Solids (TDS)	IS : 3025 (Part 16) : 1984 RA 2017	5 mg/l to 1000mg/l
		Ammonical Nitrogen	IS : 3025 (Part 34) : 1988 RA 2014 Nesslerization method	0.4 mg/l to 150 mg/l
		Fluoride as F	APHA 4500-F-D 23 rd Edition 2017, SPANDS method	0.2 mg/l to 20 mg/l
		Nitrate as NO ₃	IS : 3025 (Part 34) :1988 RA 2014, Chromotophic Acid method	0.5 mg/l to 50mg/l
		Boron as B	IS 3025(Part 57) :2017, Curcumin method	0.4 mg/l to 10 mg/l
		Iron as Fe	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.1 mg/l to 10 mg/l
		Copper (Cu)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.04 mg/l to 10 mg/l
		Manganese (Mn)	APHA 3111 B, 23 rd Edition	0.1 mg/l to 2 mg/l

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			2017 Air-Acetylene flame AAS method	
		Nickel (Ni)	APHA 3111 B, 23 rd Edition 2012 Air-Acetylene flame AAS method	0.01 mg/l to 2 mg/l
		Silver (Ag)	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.05 mg/l to 2 mg/l
		Zinc as Zn	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.05 mg/l to 15 mg/l
		Chromium as Cr	APHA 3111 B, 23 rd Edition 2017 Air-Acetylene flame AAS method	0.01 mg/l to 10 mg/l