Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 1 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are	Range of Testing / Limits of Detection
	G. 1001		performed	

CHEMICAL TESTING

1.	Ambient Air	Sulphur Dioxide (SO ₂)	IS 5182 (Part 2):2001,	10 μg/m ³ to 1000 μg/m ³
			Reaffirmed:2012	
		Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6):2006	6 μg/m ³ to 1000 μg/m ³
			Reaffirmed:2012	
		Suspended Particulate	IS 5182 (Part 4):1999,	10 μg/m ³ to 1000 μg/m ³
		Matter (SPM)	Reaffirmed:2014	
		Particulate Matter (PM ₁₀)	EPA/625/R-96/010a	10 μg/m ³ to 1000 μg/m ³
			(Compendium Method	
			IO-2.1)	
		Particulate Matter (PM _{2.5})	UT/LQMS/SOP/AA05	10 μg/m ³ to 1000 μg/m ³
			Issue No. 2;	
			Issue Date: 14.11.2016	
		Lead (Pb)	IS 5182 (Part 22):2004,	0.01 μg/m ³ to 100 μg/m ³
			Reaffirmed:2014	
			(Flame Atomic Absorption	
			Spectrometry)	, ,
		Arsenic (As)	UT/LQMS/SOP/AA07	2 ng/m ³ to 50 ng/m ³
			Issue No. 2;	
			Issue Date: 14.11.2016	
			(Continuous Hydride	
			Generation Atomic	
			Absorption Spectrometry)	3 3
		Ammonia (NH ₃)	ISC Method 401,	10 μg/m ³ to 400 μg/m ³
			Page No. 379-381,	
			Ed. 3 rd , 2016	
			(Indophenol Method)	1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
		Hydrogen Sulfide (H₂S)	IS 5182 (Part 7): 1973,	6 μg/m ³ to 600 μg/m ³
			Reaffirmed:2014	

Anita	Rani
Conv	enor

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 2 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Carbon Monoxide (CO)	IS 5182 (Part 10): 1999, Reaffirmed:2014 (Non-Dispersive Infrared Absorption Method)	0.01 mg/m ³ to 229 mg/m ³
2.	Stack Emission	Particulate matter (PM)	UT/LQMS/SOP/SE01 Issue No. 2; Issue Date: 14.11.2016	1 mg/Nm ³ to 5000 mg/Nm ³
		Sulphur Dioxide (SO ₂)	IS 11255 (Part 2):1985, Reaffirmed:2014	5 mg/Nm³ to 1000 mg/Nm³
3.	Ambient Noise Levels (Excluding vibration)	Equivalent Sound Level Leq in dB(A) in Ambient Air	UT/LQMS/SOP/N01 Issue No. 2; Issue Date: 14.11.2016	30 Leq dB(A) to 140 Leq dB(A)
4.	Source Noise Levels	A-Weighted Sound Pressure Level in dB(A) at 1 m from Enclosure Surface	UT/LQMS/SOP/N02 Issue No. 2; Issue Date: 14.11.2016	30 dB(A) to 140 dB(A)
II.	POLLUTION & ENV	RONMENT	·!	
1.	Wastewater (Effluents, Sewage)	рН	APHA 22 nd Ed. 2012, 4500- H ⁺ B IS 3025 (Part 11): 1983, Reaffirmed:2012 (Clause 2 – Electrometric Method)	2 to 12
		Temperature	APHA 22 nd Ed. 2012, 2550 B IS 3025 (Part 9): 1984, Reaffirmed:2012	1°C to 100 °C
		Electrical Conductivity	APHA 22 nd Ed. 2012, 2510 B IS 3025 (Part 14): 1984, Reaffirmed:2013	2 μS/cm to 40000 μS/cm
		Total Acidity as CaCO₃	APHA 22 rd Ed. 2012, 2310 B IS 3025 (Part 22): 1986, Reaffirmed:2014	1 mg/L to 500 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 3 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total Alkalinity as CaCO ₃	APHA 22 nd Ed. 2012, 2320 B IS 3025 (Part 23): 1986, Reaffirmed:2014	1 mg/L to 500 mg/L
		Total Hardness as CaCO ₃	APHA 22 nd Ed. 2012, 2340 C IS 3025 (Part 21): 2009 Reaffirmed:2014	2 mg/L to 10000 mg/L
		Calcium as Ca	APHA 22 nd Ed. 2012, 3500-Ca B IS 3025 (Part 40): 1991, Reaffirmed:2014 (Clause 5 – EDTA Titrimetric Method)	2 mg/L to 10000 mg/L
		Magnesium as Mg	APHA 22 nd Ed. 2012, 3500- Mg B IS 3025 (Part 46): 1994, Reaffirmed:2014 (Clause 6 - EDTA Titrimetric Method)	2 mg/L to 10000 mg/L
		Total Solids	APHA 22nd Ed. 2012, 2540 B IS 3025 (Part 15): 1984, Reaffirmed:2014	5 mg/L to 20000 mg/L
		Total Dissolved Solids	APHA 22 nd Ed. 2012, 2540 C IS 3025 (Part 16): 1984, Reaffirmed:2012	5 mg/L to 15000 mg/L
		Total Suspended Solids	APHA 22 nd Ed. 2012, 2540 D IS 3025 (Part 17): 1984, Reaffirmed:2012	5 mg/L to 5000 mg/L
		Fixed Solids	APHA 22 nd Ed. 2012, 2540 E IS 3025 (Part 18): 1984, Reaffirmed:2012	5 mg/L to 5000 mg/L
		Volatile Solids	APHA 22 nd Ed. 2012, 2540 E IS 3025 (Part 18): 1984, Reaffirmed:2012	5 mg/L to 5000 mg/L

Anita	Rani
Conv	enor

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 4 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Boron as B	APHA 22 nd Ed. 2012, 4500-B B IS 3025 (Part 57): 2005 Reaffirmed:2010 (Clause 6 – Colorimetric Curcumin Method)	0.1 mg/L to 1 mg/L
		Cyanide as CN ⁻	APHA 22 nd Ed. 2012, 4500- CN ⁻ C,E IS 3025 (Part 27): 1986, Reaffirmed:2014 (Clause 2 – Total Cyanides after Distillation)	0.02 mg/L to 0.2 mg/L
		Chloride as Cl	APHA 22 nd Ed. 2012, 4500- Cl ⁻ B IS 3025 (Part 32): 1988, Reaffirmed:2014 (Clause 2 – Argentometric Method)	5 mg/L to 2000 mg/L
		Fluoride as F	APHA 22 nd Ed. 2012, 4500- F ⁻ B,D (SPADNS Method)	0.2 mg/L to 1.4 mg/L
		Ammonia as NH ₃ -N	APHA 22^{nd} Ed. 2012, 4500-NH ₃ C IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 2.5 – Titrimetric Method)	0.5 mg/L to 500 mg/L
		Nitrite Nitrogen	APHA 22 nd Ed. 2012, 4500- NO ₂ B IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 4 –Spectrophot - ometric Method)	0.001 mg/L to 0.015 mg/L
		Nitrate Nitrogen	IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 3.3 – Chromotropic Acid Method)	0.1 mg/L to 5 mg/L
		Kjeldahl Nitrogen	APHA 22 nd Ed. 2012, 4500- N _{org} B (Macro-Kjeldahl Method)	1 mg/L to 500 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 5 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Phosphorus as P	APHA 22 nd Ed. 2012, 4500- P D,E (Stannous Chloride Method, Ascorbic Acid Method)	0.01 mg/L to 0.25 mg/L
		Silica as SiO₂	APHA 22 nd Ed. 2012, 4500- SiO ₂ C IS 3025 (Part 35): 1988, Reaffirmed:2014 (Clause 3 – Molybdosilicate Method)	0.8 mg/L to 4 mg/L
		Sulfide as S ²⁻	APHA 22 nd Ed. 2012, 4500- S ²⁻ D IS 3025 (Part 29): 1986, Reaffirmed:2014 (Clause 3 – Methylene Blue Method)	0.05 mg/L to 1 mg/L
		Sulfate as SO ₄ ²⁻	APHA 22 nd Ed. 2012, 4500- SO ₄ ²⁻ E (Turbidimetric method)	1 mg/L to 10 mg/L
		Dissolved Oxygen	APHA 22 nd Ed. 2012, 4500- O C IS 3025 (Part 38): 1989, Reaffirmed:2014 (Clause 4.2 – Azide Modification)	1 mg/L to 15 mg/L
		Biochemical Oxygen Demand (3 Days at 27 °C)	IS 3025 (Part 44): 1993 Reaffirmed:2014	2 mg/L to 15000 mg/L
		Chemical Oxygen Demand	APHA 22 nd Ed. 2012, 5220 B IS 3025 (Part 58): 2006 Reaffirmed:2012	4 mg/L to 15000 mg/L
		Oil & Grease	APHA 22 nd Ed. 2012, 5520 B IS 3025 (Part 39): 1991 Reaffirmed:2014 (Clause 5 – Partition Gravimetric Method)	10 mg/L to 1000 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 6 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Phenols	APHA 22 nd Ed. 2012, 5530 D (Direct Photometric Method)	1 mg/L to 5 mg/L
		Metals		
		Aluminium as Al	APHA 22 nd Ed. 2012, 3111 D IS 3025 (Part 55): 2003, Reaffirmed:2014 (Clause 6 - FLAA)	2.4 mg/L to 50 mg/L
		Arsenic as As	APHA 22 nd Ed. 2012, 3114 C (Continuous Hydride Generation Atomic Absorption Spectrometry)	0.006 mg/L to 0.2 mg/L
		Cadmium as Cd	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 41): 1992, Reaffirmed:2014 (Clause 5 – FLAA)	0.03 mg/L to 2 mg/L
		Chromium as Cr	APHA 22 nd Ed. 2012, 3111 D IS 3025 (Part 52): 2003 Reaffirmed:2014 (Clause 7 – FLAA)	0.18 mg/L to 10 mg/L
		Hexavalent Chromium as Cr ⁺⁶	APHA 22 nd Ed. 2012, 3500 Cr B IS 3025 (Part 52): 2003 Reaffirmed:2014 (Clause 6 – Diphenylcarbazide Method)	0.01 mg/L to 0.3 mg/L
		Cobalt as Co	APHA 22 nd Ed. 2012, 3111 B (FLAA)	0.06 mg/L to 7 mg/L
		Copper as Cu	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 42): 1992, Reaffirmed:2014 (Clause 6 – FLAA)	0.15 mg/L to 5 mg/L
		Iron as Fe	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 53): 2003, Reaffirmed:2014 (Clause 7 – FLAA)	0.09 mg/L to 12 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 7 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lead as Pb	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 47): 1994, Reaffirmed:2014 (Clause 7 – FLAA)	0.06 mg/L to 15 mg/L
		Manganese as Mn	APHA 22 nd Ed. 2012, 3111 B (FLAA)	0.09 mg/L to 5 mg/L
		Mercury as Hg	APHA 22 nd Ed. 2012, 3112 B (Cold Vapour Atomic Absorption Spectrometry)	0.003 mg/L to 0.075 mg/L
		Molybdenum as Mo	APHA 22 nd Ed. 2012, 3111 D (FLAA)	1.2 mg/L to 50 mg/L
		Nickel as Ni	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 54): 2003 Reaffirmed:2014 (Clause 7 – FLAA)	0.12 – 10 mg/L
		Selenium as Se	APHA 22 nd Ed. 2012, 3114 C (Continuous Hydride Generation Atomic Absorption Spectrometry)	0.003 mg/L to 0.2 mg/L
		Zinc as Zn	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 49): 1994, Reaffirmed:2014 (Clause 5 – FLAA)	0.03 mg/L to 2 mg/L
2.	Wastes (Liquid, Slurry, Sludge, Solid, Powder,	pН	UT/LQMS/SOP/S01 Issue No. 2; Issue Date: 14.11.2016	2 to 12
	Semi-Solid)	Electrical Conductivity	UT/LQMS/SOP/S02 Issue No. 2; Issue Date: 14.11.2016	2 μS/cm to 40000 μS/cm
		n-Hexane Extractable Material (HEM)	UT/LQMS/SOP/S09 Issue No. 2; Issue Date: 14.11.2016	0.1% to 5 %

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 8 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Metal		
		Arsenic as As	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 200 mg/kg
		Cadmium as Cd	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 200 mg/kg
		Chromium as Cr	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 1000 mg/kg
		Cobalt as Co	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 700 mg/kg
		Copper as Cu	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 800 mg/kg
		Iron as Fe	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	10 mg/kg to 1000 mg/kg
		Lead as Pb	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 1500 mg/kg
		Manganese as Mn	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	10 mg/kg to 500 mg/kg
		Mercury as Hg	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 10 mg/kg
		Molybdenum as Mo	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	100 mg/kg to 5000 mg/kg
		Nickel as Ni	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 1000 mg/kg

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 9 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Zinc as Zn	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 2000 mg/kg
		Metal Analysis in TCLP E		
		Aluminium as Al	UT/LQMS/SOP/S36 & S37 Issue No. 2; Issue Date: 14.11.2016	1.5 mg/kg to 50 mg/L
		Arsenic as As	UT/LQMS/SOP/S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.003 mg/L to 0.2 mg/L
		Cadmium as Cd	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.018 mg/L to 2 mg/L
		Chromium as Cr	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.06 mg/L to 10 mg/L
		Hexavalent Chromium as Cr ⁺⁶	UT/LQMS/SOP/ S36 & S38 Issue No. 2; Issue Date: 14.11.2016	0.1 mg/L to 1 mg/L
		Cobalt as Co	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.06 mg/L to 10 mg/L
		Copper as Cu	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.06 mg/L to 8 mg/L
		Iron as Fe	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.09 mg/L to 12 mg/L
		Lead as Pb	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.06 mg/L to 15 mg/L
		Manganese as Mn	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.12 mg/L to 5 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 10 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Mercury as Hg	UT/LQMS/SOP/S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.006 mg/L to 0.1 mg/L
		Molybdenum as Mo	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.9 mg/L to 50 mg/L
		Nickel as Ni	UT/LQMS/SOP/S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.06 mg/L to 10 mg/L
		Selenium as Se	UT/LQMS/SOP/S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.003 mg/L to 0.2 mg/L
		Zinc as Zn	UT/LQMS/SOP/ S36 & S37 Issue No. 2; Issue Date: 14.11.2016	0.018 mg/L to 2 mg/L
3.	Soil, Sediments	pH [1:2.5 Soil: Water]	IS 2720 (Part 26): 1987, Reaffirmed:2011 (Clause 2 – Electrometric Method)	2 to 12
		Electrical Conductivity [1:2 Soil: Water]	IS 14767: 2000, Reaffirmed:2016	2 μS/cm to 40000 μS/cm
		Bulk Density	UT/LQMS/SOP/S03 Issue No. 2; Issue Date: 14.11.2016	200 kg/m ³ to 2000 kg/m ³
		Moisture Content	IS 2720 (Part 02): 1973, Reaffirmed:2015 (Section I – Oven Drying Method)	0.1 % to 100 %
		Total Soluble Solids	IS 2720 (Part 21): 1977, Reaffirmed:2015 (Clause 2 – Gravimetric Method)	0.1 % to 5 %
		n-Hexane Extractable Material (HEM)	UT/LQMS/SOP/S09 Issue No. 2; Issue Date: 14.11.2016	0.1 % to 5 %

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 11 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Organic Matter	IS 2720 (Part 22): 1972, Reaffirmed:2015 (Section I)	0.1 % to 20%
		Organic Carbon	IS 2720 (Part 22): 1972, Reaffirmed:2015 (Section I)	0.1 % to 20%
		Water Holding Capacity	UT/LQMS/SOP/S12 Issue No. 2; Issue Date: 14.11.2016	0.1 % to 100 %
		Sodium as Na (Exchangeable)	UT/LQMS/SOP/S13 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 5000 mg/kg
		Potassium as K (Exchangeable)	UT/LQMS/SOP/S14 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 5000 mg/kg
		Calcium as Ca (Exchangeable)	UT/LQMS/SOP/S15 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 10000 mg/kg
		Magnesium as Mg (Exchangeable)	UT/LQMS/SOP/S16 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 5000 mg/kg
		Cation Exchange Capacity (CEC)	UT/LQMS/SOP/S18 Issue No. 2; Issue Date: 14.11.2016	1 meq/100g to 50 meq/100g
		Total Phosphorus as P	UT/LQMS/SOP/S31 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 5000 mg/kg
		Total Nitrogen as N	IS 14684: 1999, Reaffirmed:2014 (Clause 4)	2 mg/kg to 5000 mg/kg
		Ammonical Nitrogen as N	IS 14684: 1999, Reaffirmed:2014(Clause 5)	2 mg/kg to 5000 mg/kg
		Nitrite & Nitrate Nitrogen as N	IS 14684: 1999, Reaffirmed:2014(Clause 5)	2 mg/kg to 5000 mg/kg

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 12 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Micro-nutrients		
		Boron as B (Available)	UT/LQMS/SOP/S27 Issue No. 2; Issue Date: 14.11.2016	0.5 mg/kg to 25 mg/kg
		Phosphorous as P ₂ O ₅ (Available)	UT/LQMS/SOP/S28 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 275 mg/kg
		Potassium as K₂O (Available)	UT/LQMS/SOP/S29 Issue No. 2; Issue Date: 14.11.2016	1 mg/kg to 5000 mg/kg
		Nitrogen as N (Available)	UT/LQMS/SOP/S30 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 5000 mg/kg
		Metal		
		Arsenic as As	July 2014 Method 3050B & 7061A (Continuous Hydride Generation Atomic Absorption Spectrometry)	1 mg/kg to 200 mg/kg
		Cadmium as Cd	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 200 mg/kg
		Chromium as Cr	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 1000 mg/kg
		Cobalt as Co	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 700 mg/kg
		Copper as Cu	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 800 mg/kg
		Iron as Fe	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	10 mg/kg to 1000 mg/kg

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 13 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lead as Pb	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 1500 mg/kg
		Manganese as Mn	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	10 mg/kg to 500 mg/kg
		Mercury as Hg	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 10 mg/kg
		Molybdenum as Mo	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	100 mg/kg to 5000 mg/kg
		Nickel as Ni	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	5 mg/kg to 1000 mg/kg
		Zinc as Zn	UT/LQMS/SOP/S35 & S37 Issue No. 2; Issue Date: 14.11.2016	2 mg/kg to 2000 mg/kg
III.	WATER			
1.	Surface Water, Ground Water	pН	APHA 22 nd Ed. 2012, 4500-H ⁺ B IS 3025 (Part 11): 1983, Reaffirmed:2012 (Clause 2 – Electrometric Method)	2 to 12
		Temperature	APHA 22 nd Ed. 2012, 2550 B IS 3025 (Part 9): 1984, Reaffirmed:2012	1°C to 100 °C
		Electrical Conductivity	APHA 22 rd Ed. 2012, 2510 B IS 3025 (Part 14): 1984, Reaffirmed:2013	2 μS/cm to 10000 μS/cm

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 14 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total Acidity as CaCO ₃	APHA 22 nd Ed. 2012, 2310 B IS 3025 (Part 22): 1986, Reaffirmed:2014	1 mg/L to 500 mg/L
		Total Alkalinity as CaCO ₃	APHA 22 nd Ed. 2012, 2320 B IS 3025 (Part 23): 1986, Reaffirmed:2014	1mg/L to 500 mg/L
		Total Hardness as CaCO ₃	APHA 22 nd Ed. 2012, 2340 C IS 3025 (Part 21): 2009 Reaffirmed:2014	1mg/L to 1000 mg/L
		Calcium as Ca	APHA 22 nd Ed. 2012, 3500- Ca B IS 3025 (Part 40): 1991, Reaffirmed:2014 (Clause 5 - EDTA Titrimetric Method)	1 mg/L to 1000 mg/L
		Magnesium as Mg	APHA 22 nd Ed. 2012, 3500- Mg B IS 3025 (Part 46): 1994, Reaffirmed:2014 (Clause 6 - EDTA Titrimetric Method)	1 mg/L to 1000 mg/L
		Total Solids	APHA 22 nd Ed. 2012, 2540 B IS 3025 (Part 15): 1984, Reaffirmed:2014	1 mg/L to 15000 mg/L
		Total Dissolved Solids	APHA 22 nd Ed. 2012, 2540 C IS 3025 (Part 16): 1984, Reaffirmed:2012	1 mg/L to 10000 mg/L
		Total Suspended Solids	APHA 22 nd Ed. 2012, 2540 D IS 3025 (Part 17): 1984, Reaffirmed:2012	1 mg/L to 1000 mg/L
		Fixed Solids	APHA 22 nd Ed. 2012, 2540 E IS 3025 (Part 18): 1984, Reaffirmed:2012	1 mg/L to 1000 mg/L
		Volatile Solids	APHA 22 nd Ed. 2012, 2540 E IS 3025 (Part 18): 1984, Reaffirmed:2012	1 mg/L to 1000 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 15 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Boron as B	APHA 22 nd Ed. 2012, 4500- B B IS 3025 (Part 57): 2005 Reaffirmed:2010 (Clause 6 - Colorimetric Curcumin Method)	0.1 mg/L to 1 mg/L
		Cyanide as CN ⁻	APHA 22 nd Ed. 2012, 4500- CN C,E IS 3025 (Part 27): 1986, Reaffirmed:2014 (Clause 2 - Total Cyanides after Distillation)	0.02 mg/L to 0.2 mg/L
		Chloride as Cl ⁻	APHA 22 nd Ed. 2012, 4500- Cl ⁻ B IS 3025 (Part 32): 1988, Reaffirmed:2014 (Clause 2 – Argentometric Method)	1 mg/L to 1500 mg/L
		Fluoride as F	APHA 22 nd Ed. 2012, 4500- F ⁻ B,D (SPADNS Method)	0.2 mg/L to 1.4 mg/L
		Ammonia as NH₃-N	APHA 22^{nd} Ed. 2012, 4500-NH ₃ C IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 2.5 – Titrimetric Method)	0.1 mg/L to 250 mg/L
		Nitrite Nitrogen	APHA 22 nd Ed. 2012, 4500- NO ₂ ⁻ B IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 4 – Spectrophotometric Method)	0.001 mg/L to 0.015 mg/L
		Nitrate Nitrogen	IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 3.3 – Chromotropic Acid Method)	0.1 mg/L to 5 mg/L
		Kjeldahl Nitrogen	APHA 22 ^{na} Ed. 2012, 4500- N _{org} B (Macro-Kjeldahl Method)	0.1 mg/L to 250 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 16 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Phosphorus as P	APHA 22 nd Ed. 2012, 4500- P D,E (Stannous Chloride Method, Ascorbic Acid Method)	0.01 mg/L to 0.25 mg/L
		Silica as SiO₂	APHA 22 nd Ed. 2012, 4500- SiO ₂ C IS 3025 (Part 35): 1988, Reaffirmed:2014 (Clause 3 – Molybdosilicate Method)	0.8 mg/L to 4 mg/L
		Sulfide as S ²⁻	APHA 22 nd Ed. 2012, 4500- S ²⁻ D IS 3025 (Part 29): 1986, Reaffirmed:2014 (Clause 3 – Methylene Blue Method)	0.05 mg/L to 1 mg/L
		Sulfate as SO ₄ ²⁻	APHA 22 nd Ed. 2012, 4500- SO ₄ ²⁻ E (Turbidimetric method)	1 mg/L to 10 mg/L
		Dissolved Oxygen	APHA 22 nd Ed. 2012, 4500- O C IS 3025 (Part 38): 1989, Reaffirmed:2014 (Clause 4.2 – Azide Modification)	1 mg/L to 15 mg/L
		Biochemical Oxygen Demand (3 Days at 27°C)	IS 3025 (Part 44): 1993 Reaffirmed:2014	2 mg/L to 500 mg/L
		Chemical Oxygen Demand	APHA 22 nd Ed. 2012, 5220 B IS 3025 (Part 58): 2006 Reaffirmed:2012	2 mg/L to 1000 mg/L
		Oil & Grease	APHA 22 nd Ed. 2012, 5520 B IS 3025 (Part 39): 1991 Reaffirmed:2014 (Clause 5 – Partition Gravimetric Method)	10 mg/L to 1000 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 17 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Phenols	APHA 22 nd Ed. 2012, 5530 D (Direct Photometric Method)	1 mg/L to 5 mg/L
		Anionic Surfactants as MBAS	APHA 22 nd Ed. 2012, 5540 C	0.08 mg/L to 0.4 mg/L
		Aluminium as Al	APHA 22 nd Ed. 2012, 3111D IS 3025 (Part 55): 2003, Reaffirmed:2014 (Clause 6 – FLAA)	0.5 mg/L to 50 mg/L [For AAS Method]
		Aluminium as Al	APHA 22 nd Ed. 2012, 3500-Al B IS 3025 (Part 55): 2003, Reaffirmed:2014 (Clause 5 – Colorimetric Method)	0.04 mg/L to 0.28 mg/L [For Colorimetric Method]
		Copper as Cu	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 42): 1992, Reaffirmed:2014 (Clause 6 – FLAA)	0.03 mg/L to 5 mg/L
		Iron as Fe	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 53): 2003, Reaffirmed:2014 (Clause 7 – FLAA)	0.06 mg/L to 12 mg/L
		Manganese as Mn	APHA 22 nd Ed. 2012, 3111 B (FLAA)	0.03 mg/L to 5 mg/L
		Selenium as Se	APHA 22 nd Ed. 2012, 3114 C Continuous Hydride Generation Atomic Absorption Spectrometry	0.003 mg/L to 0.2 mg/L
		Zinc as Zn	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 49): 1994, Reaffirmed:2014 (Clause 5 – FLAA)	0.02 mg/L to 2 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 18 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Drinking Water	рН	APHA 22 nd Ed. 2012, 4500-H ⁺ B IS 3025 (Part 11): 1983, Reaffirmed:2012 (Clause 2 – Electrometric Method)	2 to 12
		Total Alkalinity as CaCO₃	APHA 22 nd Ed. 2012, 2320 B IS 3025 (Part 23): 1986, Reaffirmed:2014	1 mg/L to 500 mg/L
		Total Hardness as CaCO ₃	APHA 22 nd Ed. 2012, 2340 C IS 3025 (Part 21): 2009 Reaffirmed:2014	1 mg/L to 1000 mg/L
		Calcium as Ca	APHA 22 nd Ed. 2012, 3500-Ca B IS 3025 (Part 40): 1991, Reaffirmed:2014 (Clause 5 - EDTA Titrimetric Method)	1 mg/L to 1000 mg/L
		Magnesium as Mg	APHA 22 nd Ed. 2012, 3500- Mg B IS 3025 (Part 46): 1994, Reaffirmed:2014 (Clause 6 - EDTA Titrimetric Method)	1 mg/L to 1000 mg/L
		Total Dissolved Solids	APHA 22 nd Ed. 2012, 2540 C IS 3025 (Part 16): 1984, Reaffirmed:2012	1 mg/L to 10000 mg/L
		Boron as B	APHA 22 nd Ed. 2012, 4500-B B IS 3025 (Part 57): 2005 Reaffirmed:2010 (Clause 6 - Colorimetric Curcumin Method)	0.1 mg/L to 1 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 19 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cyanide as CN ⁻	APHA 22 nd Ed. 2012, 4500-CN ⁻ C,E IS 3025 (Part 27): 1986, Reaffirmed:2014 (Clause 2 - Total Cyanides after Distillation)	0.02 mg/L to 0.2 mg/L
		Chloride as Cl	APHA 22 nd Ed. 2012, 4500- Cl ⁻ B IS 3025 (Part 32): 1988, Reaffirmed:2014 (Clause 2 – Argentometric Method)	1 mg/L to 1500 mg/L
		Fluoride as F ⁻	APHA 22 nd Ed. 2012, 4500- F ⁻ B,D (SPADNS Method)	0.2 mg/L to 1.4 mg/L
		Ammonia as NH ₃ -N	APHA 22 nd Ed. 2012, 4500- NH ₃ C IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 2.5 – Titrimetric Method)	0.1 mg/L to 250 mg/L
		Nitrate Nitrogen	IS 3025 (Part 34): 1988, Reaffirmed:2014 (Clause 3.3 – Chromotropic Acid Method)	0.1 mg/L to 5 mg/L
		Sulfate as SO ₄ ²⁻	APHA 22 nd Ed. 2012, 4500- SO ₄ ²⁻ E Turbidimetric method	1 mg/L to 10 mg/L
		Anionic Surfactants as MBAS	APHA 22 nd Ed. 2012, 5540 C	0.08 mg/L to 0.4 mg/L
		Copper as Cu	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 42): 1992, Reaffirmed:2014 (Clause 6 – FLAA)	0.03 mg/L to 5 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 20 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Iron as Fe	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 53): 2003, Reaffirmed:2014 (Clause 7 – FLAA)	0.06 mg/L to 12 mg/L
		Manganese as Mn	APHA 22 nd Ed. 2012, 3111 B (FLAA)	0.03 mg/L to 5 mg/L
		Selenium as Se	APHA 22 nd Ed. 2012, 3114 C (Continuous Hydride Generation Atomic Absorption Spectrometry)	0.003 mg/L to 0.2 mg/L
		Zinc as Zn	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 49): 1994, Reaffirmed:2014 (Clause 5- FLAA)	0.02 mg/L to 2 mg/L
3.	Construction Water	pН	APHA 22 nd Ed. 2012, 4500-H ⁺ B IS 3025 (Part 11): 1983, Reaffirmed:2012 (Clause 2 - Electrometric Method)	2 to 12
		Total Acidity as CaCO ₃	APHA 22 nd Ed. 2012, 2310 B IS 3025 (Part 22): 1986, Reaffirmed:2014	1 mg/L to 500 mg/L
		Total Alkalinity as CaCO ₃	APHA 22 nd Ed. 2012, 2320 B IS 3025 (Part 23): 1986, Reaffirmed:2014	1 mg/L to 500 mg/L
		Total Suspended Solids	APHA 22 nd Ed. 2012, 2540 D IS 3025 (Part 17): 1984, Reaffirmed:2012	1 mg/L to 1000 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 21 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Inorganic Filterable Residue	APHA 22 nd Ed. 2012, 2540 E IS 3025 (Part 18): 1984, Reaffirmed:2012	1 mg/L to 1000 mg/L
		Organic Filterable Residue	APHA 22 nd Ed. 2012, 2540 E IS 3025 (Part 18): 1984, Reaffirmed:2012	1 mg/L to 1000 mg/L
		Chloride as Cl ⁻	APHA 22 nd Ed. 2012, 4500-Cl ⁻ B IS 3025 (Part 32): 1988, Reaffirmed:2014 (Clause 2 - Argentometric Method)	1 mg/L to 1500 mg/L
		Sulfate as SO ₃ ²⁻	APHA 22 nd Ed. 2012, 4500- SO ₄ ²⁻ E IS 3025 (Part 24): 1986, Reaffirmed:2014 (Clause 4 - Turbidity Method)	1 mg/L to 10 mg/L
4.	Trace Metal in Water	Arsenic as As	APHA 22 nd Ed. 2012, 3114 C (Continuous Hydride Generation Atomic Absorption Spectrometry)	0.003 mg/L to 0.2 mg/L
		Cadmium as Cd	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 41): 1992, Reaffirmed:2014 (Clause 5- FLAA)	0.015 mg/L to 2 mg/L
		Chromium as Cr	APHA 22 nd Ed. 2012, 3111 D IS 3025 (Part 52): 2003 Reaffirmed:2014 (Clause 7- FLAA)	0.02 mg/L to 10 mg/L

Brothers Building No. 2, Bata Compound, Eastern Express Highway,

Thane (West), Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5600 (in lieu of T-3444) Page 22 of 22

Validity 28.05.2017 to 27.05.2019 Last Amended on --

SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Hexavalent Chromium as Cr	APHA 22 nd Ed. 2012, 3500 Cr B IS 3025 (Part 52): 2003 Reaffirmed:2014 (Clause 6 - Diphenylcarbazide Method)	0.01 mg/L to 0.3 mg/L
		Cobalt as Co	APHA 22 nd Ed. 2012, 3111 B (FLAA)	0.06 mg/L to 7 mg/L
		Lead as Pb	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 47): 1994, Reaffirmed:2014 (Clause 7 – FLAA)	0.01 mg/L to 10 mg/L
		Mercury as Hg	APHA 22 nd Ed. 2012, 3112 B (Cold Vapour Atomic Absorption Spectrometry)	0.0015 mg/L to 0.075 mg/L
		Molybdenum as Mo	APHA 22 nd Ed. 2012, 3111 D (FLAA)	0.9 mg/L to 50 mg/L
		Nickel as Ni	APHA 22 nd Ed. 2012, 3111 B IS 3025 (Part 54): 2003 Reaffirmed:2014 (Clause 7 – FLAA)	0.02 mg/L to 10 mg/L