

**Laboratory** METAMORPHOSIS Laboratory Private Limited, Prakruthi Bhavan,  
# 200, 1st & 2<sup>nd</sup> Floor, 1st Cross, 40th Main, BTM Layout II Stage,  
Bengaluru, Karnataka

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** TC-5841

**Page 1 of 5**

**Validity** 27.03.2018 to 26.03.2020

**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
-----	----------------------------	-------------------------	---	--

**CHEMICAL TESTING**

I.	WATER			
1.	Ground Water, Potable Water, Surface Water	Colour	IS 3025 Visual Comparison Method	2 to 500 Hazen Units
		Calcium as Ca	IS 3025 EDTA Titrimetric method	1 mg/L to 1000 mg/L
			APHA (22 <sup>nd</sup> Edition) 3500-Ca B, EDTA Titrimetric Method	
		Chloride as Cl	IS 3025 Argentometric Method	1 mg/L to 2000 mg/L
			APHA (22 <sup>nd</sup> Edition) 4500-Cl- B Argentometric Method	
		Conductivity @ 25 °C	IS:3025 Specific Conductance Method	1 µS/cm to 10000 µS/cm
			APHA (22 <sup>nd</sup> Edition) 2510 B,	
		Magnesium as Mg	IS 3025 Volumetric method using EDTA	1 mg/L to 500 mg/L
			APHA (22 <sup>nd</sup> Edition) 3120 B: Calculation Method	
		pH @ 25 °C	IS:3025 Electrometric Method	2 to 12
			APHA (22 <sup>nd</sup> Edition) 4500-H + B Electrometric Method	

**Laboratory** METAMORPHOSIS Laboratory Private Limited, Prakruthi Bhavan,  
# 200, 1st & 2<sup>nd</sup> Floor, 1st Cross, 40th Main, BTM Layout II Stage,  
Bengaluru, Karnataka

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** TC-5841

**Page 2 of 5**

**Validity** 27.03.2018 to 26.03.2020

**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
		Fluoride as F	IS 3025 Zirconium Alizarin Method Without Distillation	0.1 mg/L to 100 mg/L
			APHA(22 <sup>nd</sup> Edition) 4500 -F D SPADANS Colorimetric method	
		Potassium as K	IS 3025 Flame Photometric Method	1 mg/L to 500 mg/L
			APHA(22 <sup>nd</sup> Edition) 3500-K B: Flame Photometric Method	
		Residual chlorine	IS:3025 Iodometric Titration Method	1 mg/L to 100 mg/L
			APHA(22 <sup>nd</sup> Edition) 4500-Cl B : Iodometric Titration Method	
		Sodium as Na	IS: 3025 Flame Photometry method	1 mg/L to 500 mg/L
			APHA (22 <sup>nd</sup> Edition) 3500- Na B: Flame Photometer	
		Total Alkalinity as CaCO <sub>3</sub>	IS: 3025 Indicator Method	1 mg/L to 1000 mg/L
			APHA (22 <sup>nd</sup> Edition) 2320 B: Titration method.	
		Total Dissolved Solids	IS: 3025 Gravimetric Method	1 mg/L to 10000 mg/L
			APHA (22 <sup>nd</sup> Edition) 2540 C Gravimetric Method	
		Total Hardness as CaCO <sub>3</sub>	IS: 3025 EDTA Method	1 mg/L to 2000 mg/L
			APHA (22 <sup>nd</sup> Edition) 2340 C	

**Laboratory** METAMORPHOSIS Laboratory Private Limited, Prakruthi Bhavan,  
# 200, 1st & 2<sup>nd</sup> Floor, 1st Cross, 40th Main, BTM Layout II Stage,  
Bengaluru, Karnataka

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** TC-5841

**Page 3 of 5**

**Validity** 27.03.2018 to 26.03.2020

**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
		Sulphate as SO <sub>4</sub>	EDTA Titrimetric Method IS : 3025	1 mg/L to 200 mg/L
			APHA (22 <sup>nd</sup> Edition) 4500-SO <sub>4</sub> E Turbidity Method	1 mg/L to 40 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 Chromotropic Acid Method	0.1 mg/L to 5 mg/L
			APHA (22 <sup>nd</sup> Edition) 4500-NO <sub>3</sub> B	0.5 mg/L to 50mg/L
		Turbidity	IS 3025	1 NTU to 100 NTU
			APHA (22 <sup>nd</sup> Edition) 2130 B	
		Iron as Fe	IS 3025	0.2 mg/L to 100 mg/L
			APHA (22 <sup>nd</sup> Edition) 3500 Fe B	
<b>II.</b>	<b>POLLUTION AND ENVIRONMENT</b>			
<b>1.</b>	<b>Waste water (Effluents/Sewage)</b>	Ammonical Nitrogen as N	IS 3025 Titrimetric Method	1 mg/L to 50 mg/L
			APHA (22 <sup>nd</sup> Edition) 4500-NH <sub>3</sub> C Titrimetric Method	
		Biochemical Oxygen Demand BOD at 27 °C for 3days	IS:3025	2 mg/L to 2000 mg/L
		Chemical Oxygen Demand (COD)	IS:3025	4 mg/L to 6000 mg/L
			APHA (22 <sup>nd</sup> Edition) 5220 B Open Reflux Method	
		Chloride as Cl	IS:3025 Argentometric Method	1 mg/L to 2000 mg/L
			APHA (22 <sup>nd</sup> Edition) 4500-Cl- B&C Argentometric Method	

**Laboratory** METAMORPHOSIS Laboratory Private Limited, Prakruthi Bhavan,  
# 200, 1st & 2<sup>nd</sup> Floor, 1st Cross, 40th Main, BTM Layout II Stage,  
Bengaluru, Karnataka

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** TC-5841

**Page 4 of 5**

**Validity** 27.03.2018 to 26.03.2020

**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
		Free Ammonia as NH <sub>3</sub>	IS 3025 Titrimetric Method APHA (22 <sup>nd</sup> Edition) 4500-NH <sub>3</sub> C Titrimetric Method	1 mg/L to 25 mg/L
		Oil and Grease	IS:3025 Partition Gravimetric Method APHA (22 <sup>nd</sup> Edition) 5520 B Partition Gravimetric Method	1 mg/L to 1000 mg/L
		pH @ 25 °C	IS:3025 Electrometric Method APHA (22 <sup>nd</sup> Edition) 4500-H+ B Electrometric Method.	2 to 12
		Residual Chlorine	IS: 3025 Iodometric Titration Method. APHA (22 <sup>nd</sup> Edition) 4500- Cl B: Iodometric Titration Method.	1 mg/L to 100 mg/L
		Temperature	IS 3025 APHA (22 <sup>nd</sup> Edition) 2550 B	20 <sup>o</sup> C to 50 <sup>o</sup> C
		Total Dissolved Solids	IS:3025 Gravimetric method. APHA (22 <sup>nd</sup> Edition) 2540 C Gravimetric Method.	1 mg/L to 10000 mg/L
		Total Kjeldahl Nitrogen as N	IS 3025 Macro Kjeldahl Method APHA (22 <sup>nd</sup> Edition) 4500-N(org) B Macro Kjeldahl Method	1 mg/L to 500 mg/L
		Total Suspended Solids	IS:3025 Gravimetric method	10 mg/L to 1000 mg/L

**Laboratory** METAMORPHOSIS Laboratory Private Limited, Prakruthi Bhavan,  
# 200, 1st & 2<sup>nd</sup> Floor, 1st Cross, 40th Main, BTM Layout II Stage,  
Bengaluru, Karnataka

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** TC-5841

**Page 5 of 5**

**Validity** 27.03.2018 to 26.03.2020

**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
			APHA (22 <sup>nd</sup> Edition) 2540 D Gravimetric method	
2.	Soil	Available Nitrogen as N	IS:14686	0.1% to 10%
		Available Potassium as K	MLPL/SOP/32(based on manual of Soil Testing in India, DoAg, GOI-2011 Page 99	1 kg/ha to 1000 kg/ha
		Conductivity at 25 °C	IS: 14767	1 µS/cm to 500 µS/cm
		Moisture	IS: 2720	1% to 50%
		pH @ 25° C	IS: 2720	2 to 12
		Total Organic Matter	IS: 2720	0.1% to 10 %
III.	<b>ATMOSPHERIC POLLUTION</b>			
1.	<b>Source/Stack Emissions Monitoring</b>	Oxides of Nitrogen (NO <sub>2</sub> )	IS:11255	5 mg/Nm <sup>3</sup> to 1000 mg/Nm <sup>3</sup>
		Particulate Matter (PM)	IS:11255	5 mg/Nm <sup>3</sup> to 1000 mg/Nm <sup>3</sup>
		Sulphur Dioxide (SO <sub>2</sub> )	IS:11255	2.5 mg/Nm <sup>3</sup> to 3000 mg/Nm <sup>3</sup>
2.	<b>Ambient Air Monitoring</b>	Ammonia as NH <sub>3</sub>	MLPL/SOP/41 (CPCB ( Vol. I: 2011)	0.1 µg/ m <sup>3</sup> to 1000 µg/ m <sup>3</sup>
		Nitrogen dioxides (NO <sub>2</sub> )	IS:5182	9 µg/ m <sup>3</sup> to 500 µg/ m <sup>3</sup>
		Respirable Suspended Particulate Matter (PM <sub>10</sub> )	IS:5182	10 µg/ m <sup>3</sup> to 1000 µg/m <sup>3</sup>
		Particulate Matter (PM <sub>2.5</sub> )	MLPL/SOP/44 - (CPCB Volume 1) 2011	5 µg/ m <sup>3</sup> to 500 µg/ m <sup>3</sup>
3.	<b>Ambient Noise Levels at Site</b>	Sulphur Dioxide (SO <sub>2</sub> )	IS:5182	5 µg/ m <sup>3</sup> to 500 µg/ m <sup>3</sup>
		Noise Level Leq, Lmax, Lmin	IS: 9989	35 to 120 dB(A)