

**Laboratory**                      **Advanced Environmental Laboratory, Tamil Nadu Pollution Control Board, No. 76, Anna Salai, Guindy, Chennai, Tamil Nadu**

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

**Certificate Number**        **TC-6873**

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**Validity**                        **07.02.2018 to 06.02.2020**

**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**

<b>I.</b>	<b>ATMOSPHERIC POLLUTION</b>			
<b>1.</b>	<b>Environment Air</b>	Respirable Suspended Particulate Matter (PM <sub>10</sub> )	IS 5182: (Part 23)	5 µg/m <sup>3</sup> to 1,000 µg/m <sup>3</sup>
		Sulphur Dioxide (as SO <sub>2</sub> )	IS 5182: (Part 2)	4 µg/m <sup>3</sup> to 200 µg/m <sup>3</sup>
		Oxides of Nitrogen (as NO <sub>x</sub> )	IS 5182: (Part 6)	5 µg/m <sup>3</sup> to 500 µg/m <sup>3</sup>
<b>2.</b>	<b>Stack Emission</b>	Particulate Matter	IS 11255: (Part 1)	5 mg/Nm <sup>3</sup> to 5000 mg/Nm <sup>3</sup>
		Sulphur Dioxide (as SO <sub>2</sub> )	USEPA CTM /034, Rev.no. 7	10 mg/Nm <sup>3</sup> to 4000 mg/Nm <sup>3</sup>
		Oxides of Nitrogen (as NO <sub>x</sub> )	USEPA CTM /030, Rev.no. 7	10 mg/Nm <sup>3</sup> to 2000 mg/Nm <sup>3</sup>
		Gaseous Emission	IS 11255: (Part 3)	1000 Nm <sup>3</sup> /hr to 500000 Nm <sup>3</sup> /hr
		Temperature	IS 11255: (Part 3)	30 °C to 800°C
		Velocity	IS 11255: (Part 3)	3 m/sec to 50 m/sec
<b>3.</b>	<b>Level (Industrial Ambient Noise)</b>	Sound level (Leq)	IS : 9989	30 dB(A) to 130dB(A)
<b>II.</b>	<b>WATER</b>			
<b>1.</b>	<b>Ground Water, Lake Water, River Water</b>	pH Value @25°C	APHA 23 <sup>rd</sup> Edn- 4500H <sup>+</sup> B	2 Unit to 12 Unit
		Conductivity @25°C	APHA 23 <sup>rd</sup> Edn - 2510 B	1 µS/cm to 50000µS/cm
		Total Suspended Solids @105°C	APHA 23 <sup>rd</sup> Edn- 2540 D	4 mg/L to 1000 mg/L

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		Total Dissolved solids @180°C	APHA 23 <sup>rd</sup> Edn- 2540 C	4 mg/L to 50,000 mg/L
		Chloride as Cl	APHA 23 <sup>rd</sup> Edn- 4500 -Cl - B	2 mg/L to 20,000 mg/L
		Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edn-4500- SO <sub>4</sub> <sup>2-</sup> E	2 mg/L to 5,000 mg/L
		Oil & grease	APHA 23 <sup>rd</sup> Edn- 5520 B	2 mg/L to 50 mg/L
		Bio chemical oxygen demand (3 days @ 27°C)	IS 3025 (Part 44)	2 mg/L to 50 mg/L
		Chemical Oxygen Demand (Open Reflux method)	IS 3025 (Part – 58)	4 mg/L to 500 mg/L
		Ammonical nitrogen as NH <sub>3</sub> -N	APHA 23 <sup>rd</sup> Edn- 4500 -NH <sub>3</sub> C	2 mg/L to 50 mg/L
		Total Kjeldhal Nitrogen as N	APHA 23 <sup>rd</sup> Edn- 4500 -Norg B	2 mg/L to 100 mg/L
		Nitrite nitrogen as NO <sub>2</sub> -N	APHA 23 <sup>rd</sup> Edn- 4500 -NO <sub>2</sub> <sup>-</sup> B	0.1 mg/L to 10 mg/L
		Nitrate nitrogen as NO <sub>3</sub> -N	APHA 23 <sup>rd</sup> Edn- 4500 -NO <sub>3</sub> <sup>-</sup> B	1.0 mg/L to 100 mg/L
		Phosphate as PO <sub>4</sub>	APHA 23 <sup>rd</sup> Edn- 4500 P-E	0.5 mg/L to 100 mg/L
		Total Volatile Solids @550°C	APHA 23 <sup>rd</sup> Edn- 2540 E	10 mg/L to 5000 mg/L
		Total fixed Solids@550°C	APHA 23 <sup>rd</sup> Edn- 2540 E	10 mg/L to 5000 mg/L
		Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	APHA 23 <sup>rd</sup> Edn- 5530 C	0.1 mg/L to 5.0 mg/L
		Fluoride as F <sup>-</sup>	APHA 23 <sup>rd</sup> Edn- 4500 F B D	0.1 mg/L to 10 mg/L
		Alkalinity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn- 2320 B	1 mg/L to 1000 mg/L
		Acidity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn- 2310 B	1 mg/L to 1000 mg/L
		Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn- 2340 C	5 mg/L to 1000 mg/L

**Iti Saxena**  
**Convenor**

**Alok Jain**  
**Program Director**

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		Calcium hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn-3500- Ca B	5 mg/L to 500 mg/L
		Magnesium hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn-3500- Mg B	5 mg/L to 500 mg/L
		Calcium as Ca	APHA 23 <sup>rd</sup> Edn- 3500- Ca B	5 mg/L to 300 mg/L
		Magnesium as Mg	APHA 23 <sup>rd</sup> Edn-3500-Mg B	5 mg/L to 300 mg/L
		Sodium as Na	APHA 23 <sup>rd</sup> Edn-3500-Na B	5 mg/L to 1000 mg/L
		Potassium as K	APHA 23 <sup>rd</sup> Edn-3500-K B	5 mg/L to 500 mg/L
		Hexavalent Chromium as Cr <sup>6+</sup>	APHA 23 <sup>rd</sup> Edn-3500-Cr B	0.05 mg/L to 5.0 mg/L
		Total Chromium as Cr	APHA 23 <sup>rd</sup> Edn-3500-Cr B	0.05 mg/L to 5.0 mg/L
		Dissolved Oxygen	APHA 23 <sup>rd</sup> Edn-4500-O C	1 mg/L to 8 mg/L
III.	<b>POLLUTION AND ENVIRONMENT</b>			
1.	<b>Treated Water</b>	pH Value @25°C	APHA 23 <sup>rd</sup> Edn-4500 H <sup>+</sup> B	2 Unit to 12 Unit
		Conductivity @25°C	APHA 23 <sup>rd</sup> Edn-2510 B	1 µS/cm to 50000µS/cm
		Total Suspended Solids@105°C	APHA 23 <sup>rd</sup> Edn- 2540 D	4 mg/L to 10000 mg/L
		Total Dissolved solids @180°C	APHA 23 <sup>rd</sup> Edn- 2540 C	4 mg/L to 50,000 mg/L
		Chloride as Cl	APHA 23 <sup>rd</sup> Edn- 4500 Cl <sup>-</sup> B	2 mg/L to 50,000 mg/L
		Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edn-4500 -SO <sub>4</sub> <sup>2-</sup> E	2 mg/L to 5,000 mg/L
		Oil & grease	APHA 23 <sup>rd</sup> Edn-5520 B	2 mg/L to 1000 mg/L
		Bio chemical oxygen demand (3 days @ 27°C)	IS 3025 (Part 44)	2 mg/L to 50000 mg/L
		Chemical Oxygen Demand	IS 3025 (Part 58)	4 mg/L to 1,00,000 mg/L

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		Ammonical nitrogen as NH <sub>3</sub> -N	APHA 23 <sup>rd</sup> Edn- 4500 -NH <sub>3</sub> C	2 mg/L to 500 mg/L
		Total Kjeldhal Nitrogen	APHA 23 <sup>rd</sup> Edn- 4500 -Norg B	2 mg/L to 200 mg/L
		Nitrite nitrogen as NO <sub>2</sub> -N	APHA 23 <sup>rd</sup> Edn- 4500 -NO <sub>2</sub> B	0.1 mg/L to 10 mg/L
		Phosphate as PO <sub>4</sub>	APHA 23 <sup>rd</sup> Edn-4500-P E	0.5 mg/L to 100 mg/L
		Total Volatile Solids@550°C	APHA 23 <sup>rd</sup> Edn-2540 E	10 mg/L to 5000 mg/L
		Total fixed Solids@550°C	APHA 23 <sup>rd</sup> Edn-2540 E	10 mg/L to 5000 mg/L
		Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	APHA 23 <sup>rd</sup> Edn-5530 C	0.1 mg/L to 20 mg/L
		Fluoride as F	APHA 23 <sup>rd</sup> Edn-4500 F B,D	0.1 mg/L to 50 mg/L
		Alkalinity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn- 2320 B	1 mg/L to 5000 mg/L
		Acidity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn- 2310- B	1 mg/L to 5000 mg/L
		Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn- 2340 C	5 mg/L to 10000 mg/L
		Calcium hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn-3500- Ca B	5 mg/L to 5000 mg/L
		Magnesium hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn-3500-Mg B	5 mg/L to 5000 mg/L
		Calcium as Ca	APHA 23 <sup>rd</sup> Edn-3500-Ca B	5 mg/L to 3000 mg/L
		Magnesium as Mg	APHA 23 <sup>rd</sup> Edn-3500-Mg B	5 mg/L to 3000 mg/L
		Sodium as Na	APHA 23 <sup>rd</sup> Edn-3500-Na B	5 mg/L to 5000 mg/L
		Potassium as K	APHA 23 <sup>rd</sup> Edn-3500-K B	5 mg/L to 5000 mg/L
		Hexavalent Chromium as Cr <sup>6+</sup>	APHA 23 <sup>rd</sup> Edn-3500-Cr B	0.05 mg/L to 100 mg/L
		Total Chromium as Cr	APHA 23 <sup>rd</sup> Edn-3500-Cr B	0.05 mg/L to 100 mg/L
		Dissolved Oxygen	APHA 23 <sup>rd</sup> Edn-4500-O C	1 mg/L to 8 mg/L

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		% Sodium	AEL-CHN/SOP/W28 Issue No/Date:. 01/14.07.2014.	1% to 95%

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**Convenor**

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**Alok Jain**  
**Program Director**