

**Laboratory**                                **Uttar Pradesh Waste Management Project Laboratory (A Division of Ramky Enviro Engineers Limited), Plot No. 672, On NH-2, Sikandra Road, Vill-Kumbhi, Tehsil-Akbarpur, Dist. Kanpur Dehat, Uttar Pradesh**

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

**Certificate Number**                        **TC-5877** *(in lieu of T-3469)*

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**Validity**                                        **08.06.2017 to 07.06.2019**

**Last Amended on**    **30.06.2017**

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.	POLLUTION & ENVIRONMENT			
1.	Effluents / Waste Water	pH	APHA (22 <sup>nd</sup> Edition) 4500 H <sup>+</sup> B:	1 to 14
		Temperature	APHA (22 <sup>nd</sup> Edition) 2550 B	1°C to 100 °C
		Conductivity	APHA (22 <sup>nd</sup> Edition) 2510 B	2 µMho/Cm to 10000 µMho/Cm
		Acidity as CaCO <sub>3</sub>	APHA (22 <sup>nd</sup> Edition) 2310 B	10 mg/L to 400 mg/L
		Alkalinity as CaCO <sub>3</sub>	APHA (22 <sup>nd</sup> Edition) 2320 B	10 mg/L to 400 mg/L
		Total Solids	APHA (22 <sup>nd</sup> Edition) 2540 B	10 mg/L to 1000 mg/L
		Total Dissolved Solids	APHA (22 <sup>nd</sup> Edition) 2540 C	10 mg/L to 1000 mg/L
		Total Suspended Solids	APHA (22 <sup>nd</sup> Edition) 2540 D	10 mg/L to 1000 mg/L
		Fixed Solids	APHA (22 <sup>nd</sup> Edition) 2540 E	10 mg/L to 1000 mg/L
		Volatile Solids	APHA (22 <sup>nd</sup> Edition) 2540 E	10 mg/L to 1000 mg/L
		Chlorides as Cl <sup>-</sup>	APHA (22 <sup>nd</sup> Edition) 4500 Cl <sup>-</sup> B & C	5 mg/L to 1000 mg/L
		Sulphates as SO <sub>4</sub> <sup>-2</sup>	APHA (22 <sup>nd</sup> Edition) 4500 SO <sub>4</sub> <sup>-2</sup> D	1 mg/L to 1000 mg/L
		Sulphide as S <sup>-2</sup>	APHA (22 <sup>nd</sup> Edition) 4500 S <sup>-2</sup> F	1 mg/L to 50 mg/L
		Sulphite as SO <sub>3</sub> <sup>-2</sup>	APHA (22 <sup>nd</sup> Edition) 4500 SO <sub>3</sub> <sup>-2</sup> , B	1 mg/L to 1000 mg/L

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		Nitrate Nitrogen as NO <sub>3</sub> <sup>-</sup>	APHA (22 <sup>nd</sup> Edition) 4500 NO <sub>3</sub> <sup>-</sup> B	0.1 mg/L to 50 mg/L
		Nitrite Nitrogen as NO <sub>2</sub> <sup>-</sup>	APHA (22 <sup>nd</sup> Edition) 4500 NO <sub>2</sub> <sup>-</sup> B	1 mg/L to 50 mg/L
		Nitrogen (Ammonia) as NH <sub>3</sub>	APHA (22 <sup>nd</sup> Edition) 4500 NH <sub>3</sub> B, C	1 mg/L to 1000 mg/L
		Fluorides as F <sup>-</sup>	APHA (22 <sup>nd</sup> Edition) 4500-F D	1.0mg/L to 10 mg/L
		Residual Chlorine as Cl	APHA (22 <sup>nd</sup> Edition) 4500-Cl B	10 mg/L to 100 mg/L
		Cyanides Total as CN <sup>-</sup>	APHA (22 <sup>nd</sup> Edition) 4500-CN <sup>-</sup> C, E	0.20 mg/L to 10 mg/L
		Total Hardness as CaCO <sub>3</sub>	APHA (22 <sup>nd</sup> Edition) 2340 C	5 mg/L to 1000 mg/L
		Phosphorus as P	APHA (22 <sup>nd</sup> Edition) 4500 P D	1 mg/L to 50 mg/L
		Dissolved Oxygen	APHA (22 <sup>nd</sup> Edition) 4500 O C	1 mg/L to 12 mg/L
		Oil & Grease	APHA (22 <sup>nd</sup> Edition) 5520 B	5 mg/L to 500 mg/L
		Chemical Oxygen Demand	APHA (22 <sup>nd</sup> Edition) 5220 B	5 mg/L to 50000 mg/L
		Biological Oxygen Demand (5 days at 20 <sup>o</sup> c) 3 days at 27 <sup>o</sup> c	APHA (22 <sup>nd</sup> Edition) 5210 B, 4500-O, C IS : 3025 : Part - 44	5 mg/L to 30000 mg/L
		Phenolic Compounds as Phenols	APHA ((22 <sup>nd</sup> Edition) 5530 D	0.1 mg/L to 100 mg/L
		Calcium as Ca	APHA (22 <sup>nd</sup> Edition) 3500 Ca B	5 mg/L to 1000 mg/L
		Sodium as Na	APHA(22 <sup>nd</sup> Edition) 3500 Na B	5 mg/L to 1000 mg/L

Rini Narayan  
Convenor

N. Venkateswaran  
Program Director

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		Magnesium as Mg	APHA (22 <sup>nd</sup> Edition) 3500-Mg B	5 mg/L to 1000 mg/L
		Potassium as K	APHA ((22 <sup>nd</sup> Edition) 3500 K B	5 mg/L to 1000 mg/L
2.	<b>Hazardous Waste (Solid &amp; Waste)</b>	pH	USEPA 1998 SW-846; 9045 C	1 to 14
		Bulk Density	APHA 2710 F , ATM D-5057-10	0.2 gm/cc to 3 gm/cc
		Calorific Value	IS:1350 Part II – 1970	500 gm/cc to 10000 cal/gm
		Flash Point	USEPA 1998, SW-846; 1020 A	Ambient - 80°C
		Moisture content	IS 326 (Part 21)	to 90%
		Loss on drying at 105°C	APHA(22 <sup>nd</sup> Edition) 2540	5 % to 90%
		Loss on ignition at 550°C	APHA (22 <sup>nd</sup> Edition) 2540	5% to 90%
		Ash Content at 900°C	APHA 22 <sup>nd</sup> Edition 2540	1 %to 90%
		Paint Filter Liquid Test	USEPA 1998, SW-846; 9095 A	Qualitative (Pass/ Fail)
		Reactive Cyanide as HCN	USEPA 1998, SW-846; 9010B 9014	1 mg/kg to 500 mg/kg
		Reactive Sulfide as H <sub>2</sub> S	USEPA 1998, SW-846; 9034	10 mg/kg to 600 mg/kg
		Extractable organics	USEPA 1998, SW-846; 3540 C	1 % to 5 %
		Water soluble inorganic	APHA (22 <sup>nd</sup> Edition) 2540 E	1.0 % to 90%
		Water soluble organics	APHA (22 <sup>nd</sup> Edition) 2540 E	1.0 % to 90%

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		<b>WLT/TCLP (Toxicity characteristics Leaching Procedure)</b> Iron as Fe	USEPA 1998, SW-846; 7380	0.1 mg/L to 50 mg/L
II.	<b>WATER</b>			
1.	<b>Bore well &amp; Domestic Water</b>	pH	APHA (22 <sup>nd</sup> Edition) 4500 H <sup>+</sup> B	1 to 14
		Temperature	APHA (22 <sup>nd</sup> Edition) 2550 B	1 °C to 70 °C
		Conductivity	APHA (22 <sup>nd</sup> Edition) 2510 B	2 µMho/Cm to 10000 µMho/Cm
		Acidity as CaCO <sub>3</sub>	APHA (22 <sup>nd</sup> Edition) 2310 B	5 mg/L to 400 mg/L
		Alkalinity as CaCO <sub>3</sub>	APHA (22 <sup>nd</sup> Edition) 2320 B	5 mg/L to 1000 mg/L
		Total Solids	APHA (22 <sup>nd</sup> Edition) 2540 B	10 mg/L to 3000 mg/L
		Total Dissolved Solids	APHA (22 <sup>nd</sup> Edition) 2540 C	10 mg/L to 1000 mg/L
		Total Suspended Solids	APHA (22 <sup>nd</sup> Edition) 2540 D	10 mg/L to 1500 mg/L
		Fixed Solids	APHA (22 <sup>nd</sup> Edition) 2540 E	10 mg/L to 1000 mg/L
		Volatile Solids	APHA (22 <sup>nd</sup> Edition) 2540	10 mg/L to 500 mg/L
		Chlorides as Cl <sup>-</sup>	APHA (22 <sup>nd</sup> Edition) 4500 Cl <sup>-</sup> B & C	5 mg/L to 1500 mg/L
		Sulphates as SO <sub>4</sub> <sup>-2</sup>	APHA (22 <sup>nd</sup> Edition) 4500 SO <sub>4</sub> <sup>-2</sup> D	1 mg/L to 40 mg/L 40 mg/L to 1000 mg/L
		Sulphide as S <sup>-2</sup>	APHA (22 <sup>nd</sup> Edition) 4500 S <sup>-2</sup> F	0.01 mg/L to 100 mg/L

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		Sulphite as $\text{SO}_3^{2-}$	APHA (22 <sup>nd</sup> Edition) 4500 $\text{SO}_3^{2-}$ B	1.0 mg/L to 100 mg/L
		Nitrate Nitrogen as $\text{NO}_3^-$	APHA (22 <sup>nd</sup> Edition) 4500 $\text{NO}_3^-$ B	0.1 mg/L to 50 mg/L
		Nitrite Nitrogen as $\text{NO}_2^-$	APHA (22 <sup>nd</sup> Edition) 4500 $\text{NO}_2^-$ B	1 mg/L to 50 mg/L
		Nitrogen (Ammonia) as $\text{NH}_3$	APHA (22 <sup>nd</sup> Edition) 4500 $\text{NH}_3$ B, C	0.02 mg/L to 100 mg/L
		Fluorides as $\text{F}^-$	APHA (22 <sup>nd</sup> Edition) 4500 F D	0.1 mg/L to 10 mg/L
		Residual Chlorine as Cl	APHA (22 <sup>nd</sup> Edition) 4500 Cl B	0.2 mg/L to 10 mg/L
		Total Cyanides as $\text{CN}^-$	APHA (22 <sup>nd</sup> Edition) 4500 $\text{CN}^-$ C, E	0.02 mg/L to 10 mg/L
		Total Hardness as $\text{CaCO}_3$	APHA (22 <sup>nd</sup> Edition) 2340 C	5 mg/L to 1000 mg/L
		Phosphorus as P	APHA (22 <sup>nd</sup> Edition) 4500 P D	1 mg/L to 50 mg/L
		Dissolved Oxygen	APHA (22 <sup>nd</sup> Edition) 4500 O C	0.5 mg/L to 12 mg/L
		Oil & Grease	APHA (22 <sup>nd</sup> Edition) 5520 B,	5 mg/L to 100 mg/L
		Chemical Oxygen Demand	APHA (22 <sup>nd</sup> Edition) 5220 B	5 mg/L to 2500 mg/L
		Biological Oxygen Demand (5 Days at 20°C) 3 Days at 27°C	APHA (22 <sup>nd</sup> Edition) 5210 B, 4500-O. C IS : 3025: Part -44	2 mg/L to 1000 mg/L
		Phenolic Compounds as Phenols	APHA (22 <sup>nd</sup> Edition) 5530 D	0.001mg/L to 10 mg/L
		Calcium as Ca	APHA (22 <sup>nd</sup> Edition) 3500 Ca B	10 mg/L to 1000 mg/L
		Sodium as Na	APHA (22 <sup>nd</sup> Edition) 3500 Na B	1 mg/L to 1000 mg/L

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		Magnesium as Mg	APHA (22 <sup>nd</sup> Edition) 3500-Mg B	1 mg/L to 600 mg/L
		Potassium as K	APHA (22 <sup>nd</sup> Edition) 3500 K B	1 mg/L to 100 mg/L
<b>III.</b>	<b>AIR, GASES &amp; ATMOSPHERE</b>			
<b>1.</b>	<b>Ambient Air Quality Monitoring</b>	Sulphur Dioxide	IS 5182 (Part 2)	4 µg/m <sup>3</sup> to 200 µg/m <sup>3</sup>
		Oxides of Nitrogen	IS 5182 (Part 6)	10 µg/m <sup>3</sup> to 750 µg/m <sup>3</sup>
		Particulate Matter (PM10)	IS 5182 (Part 23)	10 µg/m <sup>3</sup> to 1000 µg/m <sup>3</sup>
<b>2.</b>	<b>Stack Monitoring</b>	Sulphur Dioxide	IS 11255 (Part 2)	10 mg/m <sup>3</sup> to 1000 mg/m <sup>3</sup>
		Oxides of Nitrogen	IS 11255 (Part 7)	10 mg/m <sup>3</sup> to 1000 mg/m <sup>3</sup>
		Particulate Matter	IS 11255 (Part 1)	10 mg/m <sup>3</sup> to 1000 mg/m <sup>3</sup>