

Laboratory	West Bengal Waste Management Limited, J. L. No. 103, P. S. Sutahata, Haldia, West Bengal		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	22.04.2016
Certificate Number	T-2933	Valid Until	21.04.2018
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. POLLUTION & ENVIRONMENT				
1.	Waste Water	pH	APHA (22 nd Edition) 4500 H ⁺ B: 2012	2 to 12
		Temperature	APHA (22 nd Edition) 2550-A, B: 2012	Ambient (-) 60 °C
		Conductivity	APHA (22 nd Edition) 2510 B: 2012	2 µs/Cm to 100 mS/cm
		Alkalinity as CaCO ₃	APHA (22 nd Edition) 2320 B: 2012	10 mg/l to 30000 mg/l
		Total Solids	APHA (22 nd Edition) 2540 B: 2012	10 mg/l to 100000 mg/l
		Total Dissolved Solids	APHA (22 nd Edition) 2540 C: 2012	10 mg/l to 100000 mg/l
		Total Suspended Solids	APHA (22 nd Edition) 2540 D: 2012	10 mg/l to 1000 mg/l
		Fixed Solids	APHA (22 nd Edition) 2540 E: 2012	10 mg/l to 50000 mg/l
		Volatile Solids	APHA (22 nd Edition) 2540 E: 2012	10 mg/l to 10000mg/l
		Chlorides as Cl ⁻	APHA (22 nd Edition) 4500 Cl ⁻ B: 2012	10 mg/l to 50000mg/l
		Sulphates as SO ₄ ⁻²	APHA (22 nd Edition) 4500 SO ₄ ⁻² D: 2012 Gravimetric method	20 mg/l to 10000mg/l
		Sulphates as SO ₄ ⁻²	APHA (22 nd Edition) 4500 SO ₄ ⁻² E: 2012	1 mg/l to 40mg/l
		Nitrate Nitrogen as N	APHA (22 nd Edition) 4500 NO ₃ ⁻ B & E: 2012	1 mg/l to 100 mg/l

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	Waste Water	Nitrite Nitrogen as N	APHA (22 nd Edition) 4500 NO ₂ - B: 2012	0.2 mg/l to 100 mg/l
		Nitrogen (Ammonia) as N	APHA (22 nd Edition) 4500 NH ₃ B, C: 2012	1 mg/l to 100 mg/l
		Nitrogen (Organic) as N	APHA (22 nd Edition) 4500 N (org) B: 2012	1 mg/l to 1000mg/l
		Fluorides as F ⁻	APHA (22 nd Edition) 4500 F ⁻ D: 2012	1 mg/l to 100 mg/l
		Total Hardness as CaCO ₃	APHA (22 nd Edition) 2340 C: 2012	10 mg/l to 50000mg/l
		Dissolved Oxygen	APHA (22 nd Edition) 4500 O C: 2012	1 mg/l to 8.5 mg/l
		Oil & Grease	APHA (22 nd Edition) 5520 B: 2012	10 mg/l to 1000mg/l
		Chemical Oxygen Demand	APHA (22 nd Edition) 5220 B: 2012	10 mg/l to 100000mg/l
		Biological Oxygen Demand 3 DAYS AT 27 ^o C	IS 3025 (Part 44): 1993 (RA 2009)	4 mg/l to 50000mg/l
		Calcium as Ca	APHA (22 nd Edition) 3500 Ca B: 2012	10 mg/l to 30000mg/l
		Magnesium as Mg	APHA (22 nd Edition) 3500-Mg B: 2012	10 mg/l to 2000mg/l
		Sodium as Na	APHA (22 nd Edition) 3500 Na B: 2012	1 mg/l to 1000mg/l
		Potassium as K	APHA (22 nd Edition) 3500 K B: 2012	1 mg/l to 1000mg/l

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	Waste Water	Cadmium Cd	APHA (22 nd Edition) 3111 B: 2012, AAS	0.1 mg/l to 100mg/l
		Total Chromium as Cr	APHA (22 nd Edition) 3111 B: 2012, AAS	0.5 mg/l to 100mg/l
		Hexavalent Chromium as Cr ⁺⁶	APHA (22 nd Edition) 3500 Cr B: 2012	0.1 mg/l to 100mg/l
		Iron as Fe	APHA (22 nd Edition) 3500 Fe B: 2012	0.2 mg/l to 100mg/l
		Lead as Pb	APHA (22 nd Edition) 3111 B: 2012, AAS	0.3 mg/l to 100mg/l
		Nickel as Ni	APHA (22 nd Edition) 3111 B: 2012, AAS	0.5 mg/l to 100mg/l
		Silica as SiO ₂	APHA (22 nd Edition) 4500 SiO ₂ C: 2012	0.5 mg/l to 100mg/l
		Zinc as Zn	APHA (22 nd Edition) 3111 B: 2012, AAS	0.5 mg/l to 100mg/l
		Copper as Cu	APHA (22 nd Edition) 3111 B: 2012, AAS	0.3 mg/l to 100 mg/l
2.	Hazardous Waste (Liquid, Slurry, Sediment & Sludge)	pH	USEPA 1998 SW-846; 9045 C	2 to 12
		Bulk Density	ASTM D 5057-10	0.2 g/cc to 3 g/cc
		Calorific Value	IS 1350 (Part 2): 1975 (RA 2010)	200 cal/g to 15000 cal/g

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	Hazardous Waste (Liquid, Slurry, Sediment & Sludge)	Flash Point	USEPA 1998, SW-846; 1020 A (Seta Flash Closed Tester)	20 °C to 300 °C
		Moisture content	IS 2362: 1993 (RA 1998) (Karl Fisher Method)	0.050 % to 30.0 %
		Loss on drying at 105°C	APHA (22 nd Edition) 2540 G: 2012	1 % to 90 %
		Loss on ignition at 550°C	APHA (22 nd Edition) 2540 G: 2012	1 % to 99 %
		Paint Filter Liquid Test	USEPA 1998, SW-846; 9095 A	Qualitative
		Oil & Grease	USEPA-1998, SW-846;9071 A	1 % to 90 %
		Water soluble inorganics (Fixed Solids)	APHA (22 nd Edition) 2540 E: 2012	1 % to 99 %
		Water soluble organics (Volatile Solids)	APHA (22 nd Edition) 2540 E: 2012	1 % to 99 %
		Cadmium as Cd	USEPA 1998, SW-846; 7000B	2 mg/kg to 5000 mg/kg
		Copper as Cu	USEPA 1998, SW-846,7000B	5 mg/kg to 5000 mg/kg
		Total Chromium as Cr	USEPA 1998, SW-846,7000B	10 mg/kg to 5000 mg/kg
		Hexavalent Chromium as Cr ⁺⁶	APHA (22 nd Edition) 3500 Cr-B: 2012	5 mg/kg to 5000 mg/kg
	Iron as Fe	APHA (22 nd Edition) 3500 Fe B: 2012	5 mg/kg to 5000 mg/kg	

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	Hazardous Waste (Liquid, Slurry, Sediment & Sludge)	Total Lead as Pb	USEPA 1998, SW-846 , 7000B	5 mg/kg to 5000 mg/kg
		Total Nickel as Ni	USEPA 1998, SW-846 , 7000B	10 mg/kg to 5000 mg/kg
		Total Zinc as Zn	USEPA 1998, SW-846 , 7000B	5 mg/kg to 5000 mg/kg
3.	Metal In TCLP / Water Leachate	TCLP (Toxicity Characteristic Leaching Procedure)	USEPA 1998,SW – 846: 1311	Qualitative
		WLT(Water Leaching Test)	DIN : 38414 Part – 4 (SA)	Qualitative
		Arsenic as As	APHA (22 nd Edition): 2012 3500 As B	0.1 mg/l to 100 mg/l
		Cadmium as Cd	APHA (22 nd Edition): 2012 3111 B	0.1 mg/l to 1000 mg/l
		Total Chromium as Cr	USEPA 1998, SW-846; 7190	0.5 mg/l to 1000 mg/l
		Hexavalent Chromium as Cr ⁺⁶	APHA (22 nd Edition) 3500 Cr B: 2012	0.1 mg/l to 100 mg/l
		Iron as Fe	APHA (22 nd Edition) 3500 Fe B: 2012	0.50 mg/l to 100 mg/l
		Lead as Pb	APHA (22 nd Edition) 3111 B: 2012	0.3 mg/l to 100 mg/l
		Nickel as Ni	APHA (22 nd Edition) 3111 B: 2012	0.5 mg/l to 100 mg/l
		Copper as Cu	APHA (22 nd Edition) 3111 B: 2012	0.3 mg/l to 100 mg/l
		Zinc as Zn	APHA (22 nd Edition) 3111 B: 2012	1 mg/l to 100 mg/l

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II. WATER				
1.	Potable Domestic And Bore Water	pH	APHA (22 nd Edition) 4500 H ⁺ B: 2012	1 to 12
		Temperature	APHA (22 nd Edition) 2550-A, B: 2012	Ambient (-)100°C
		Conductivity	APHA (22 nd Edition) 2510 B: 2012	2 µs/cm to 10000 µs/cm
		Alkalinity as CaCO ₃	APHA (22 nd Edition) 2320 B: 2012	10 mg/l to 1000 mg/l
		Total Solids	APHA (22 nd Edition) 2540 B: 2012	10 mg/l to 10000 mg/l
		Total Dissolved Solids	APHA (22 nd Edition) 2540 C: 2012	10 mg/l to 1000 mg/l
		Total Suspended Solids	APHA (22 nd Edition) 2540 D: 2012	10 mg/l to 1000 mg/l
		Chlorides as Cl ⁻	APHA (22 nd Edition) 4500 Cl ⁻ B: 2012	10 mg/l to 1000 mg/l
		Sulphates as SO ₄ ⁻²	APHA (22 nd Edition): 2012 4500 SO ₄ ⁻² D (Gravimetric method)	20 mg/l to 1000 mg/l
		Sulphates as SO ₄ ⁻²	APHA (22 nd Edition) 4500 SO ₄ ⁻² E: 2012	1 mg/l to 40 mg/l
		Nitrate Nitrogen as N	APHA (22 nd Edition) 4500 NO ₃ ⁻ B: 2012	1 mg/l to 100 mg/l
		Nitrite Nitrogen as N	APHA (22 nd Edition) 4500 NO ₂ ⁻ B: 2012	0.2 mg/l to 100 mg/l

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	Potable Domestic And Bore Water	Nitrogen(Ammonia) as N	APHA (22 nd Edition) 4500 NH ₃ B, C: 2012	1 mg/l to 100 mg/l
		Nitrogen (Organic) as N	APHA (22 nd Edition) 4500 N (org) B: 2012	1 mg/l to 100 mg/l
		Fluorides as F ⁻	APHA (22 nd Edition) 4500 F ⁻ D: 2012	0.2 mg/l to 100 mg/l
		Total Hardness as CaCO ₃	APHA (22 nd Edition) 2340 C: 2012	10 mg/l to 5000 mg/l
		Dissolved Oxygen	APHA (22 nd Edition) 4500 O C: 2012	1 mg/l to 8.5 mg/l
		Oil & Grease	APHA (22 nd Edition) 5520 B: 2012	10 mg/l to 100 mg/l
		Chemical Oxygen Demand	APHA (22 nd Edition) 5220 B: 2012	10 mg/l to 5000 mg/l
		Bio-Chemical Oxygen Demand 3 DAYS AT 27 ^o C	IS 3025 (Part 44): 1993 (RA 2009)	4 mg/l to 500 mg/l
		Calcium as Ca	APHA (22 nd Edition) 3500 Ca B: 2012	10 mg/l to 3000 mg/l
		Magnesium as Mg	APHA (22 nd Edition) 3500-Mg B: 2012	10 mg/l to 2000 mg/l
		Sodium as Na	APHA (22 nd Edition) 3500 Na B: 2012	5 mg/l to 500 mg/l
		Potassium as K	APHA (22 nd Edition) 3500 K B: 2012	5 mg/l to 1000 mg/l
		Cadmium Cd	APHA (22 nd Edition) 3111 B: 2012	0.1 mg/l to 100 mg/l

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	Potable Domestic And Bore Water	Total Chromium as Cr	APHA (22 nd Edition) 3111 B: 2012	0.5 mg/l to 100 mg/l
		Hexavalent Chromium as Cr ⁺⁶	APHA (22 nd Edition) 3500 Cr B: 2012	0.1 mg/l to 100 mg/l
		Iron as Fe	APHA (22 nd Edition) 3500 Fe B: 2012	0.1 mg/l to 100 mg/l
		Lead as Pb	APHA (22 nd Edition) 3111 B: 2012	0.3 mg/l to 100 mg/l
		Nickel as Ni	APHA (22 nd Edition) 3111 B: 2012	0.5 mg/l to 100 mg/l
		Silica as SiO ₂	APHA (22 nd Edition) 4500 SiO ₂ C: 2012	0.5 mg/l to 100 mg/l
		Zinc as Zn	APHA (22 nd Edition) 3111 B: 2012	1 mg/l to 100 mg/l
		Copper as Cu	APHA (22 nd Edition) 3111 B: 2012	0.3 mg/l to 100 mg/l
		Turbidity	APHA (22 nd Edition) 2130 B: 2012	0.05 NTU to 100 NTU
III. ATNOSPHERIC POLLUTION				
1.	Ambient Air Monitoring	Sulphur Dioxide	IS 5182 (Part 2): 2001	5 µg/m ³ to 200 µg/m ³
		Nitrogen Dioxide	IS 5182 (Part 6): 2006	5 µg/m ³ to 200 µg/m ³
		Respirable Suspended Particulate Matter (PM10)	IS 5182 (Part 23): 2006	5 µg/m ³ to 1000 µg/m ³
		Fine Particulate Matter(PM 2.5)	WBWML/SOP/LAB-187 (Dated. 04/05/2012)	5 µg/m ³ to 300 µg/m ³

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