

Laboratory Environment Laboratory, Central Mine Planning and Design Institute Limited, Gondwana Place, Kanke Road, Ranchi, Jharkhand

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7470

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Validity 22.06.2018 to 21.06.2020

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

I.	WATER			
1.	Surface Water	Bio-chemical Oxygen Demand	IS 3025 (Part 44)	2.00 mg/l to 500 mg/l
		Chlorides	IS 3025(Part 32)	2.0 mg/l to 1500.0 mg/l
		Colour	APHA, 2120 C	4.5 to 500.0 (Hazen unit)
		Dissolved Oxygen	IS 3025 (Part 38)	0.1 mg/l to 12.0 mg/l
		Fluoride	APHA, 4500-F ⁻ D	0.02 mg/l to 2.00 mg/l
		Hexavalent Chromium	APHA, 3500 - Cr B	0.01 mg/l to 1.0 mg/l
		Nitrate	APHA, 4500 - NO ₃ ⁻ B	0.5 mg/l to 100.0 mg/l
		pH	IS 3025 (Part 11)	1 to 14.0
		Phenolics	APHA, 5530-C	0.001 mg/l to 0.25 mg/l
		Sulphate	APHA, 4500 SO ₄ ²⁻ -E	2.0 mg/l to 100 mg/l
		Total Dissolved Solids	IS 3025 (Part 16)	10.0 mg/l to 5000.0 mg/l
		Total Suspended Solids	IS 3025 (Part 17)	10.0 mg/l to 5000.0 mg/l
2.	Drinking Water	Alkalinity	IS 3025(Part 23)	4.0 mg/l to 2000.0 mg/l
		Calcium	IS 3025 (Part 40)	1.6 mg/l to 800.0 mg/l
		Chlorides	IS 3025(Part 32)	2.0 mg/l to 1500.0 mg/l
		Colour	APHA,2120-C	4.5 to 500.0 (Hazen unit)
		Fluoride	APHA, 4500 - F ⁻ D	0.02 mg/l to 2.00 mg/l
		Hexavalent Chromium	APHA, 3500 - Cr B.	0.01 mg/l to 1.0 mg/l
		Nitrate	APHA, 4500 - NO ₃ ⁻ B	0.5 mg/l to 100 mg/l
		Odour	IS 3025 (Part 5)	Qualitative

Laboratory

Environment Laboratory, Central Mine Planning and Design Institute
Limited, Gondwana Place, Kanke Road, Ranchi, Jharkhand

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		pH	IS 3025 (Part 11)	1 to 14.0
		Phenolics	APHA, 5530-C	0.001 mg/l to 0.25 mg/l
		Sulphate	APHA, 4500 SO ₄ ²⁻ -E	2.0 mg/l to 100 mg/l
		Total Dissolved Solids	IS 3025 (Part 16)	10.0 mg/l to 5000.0 mg/l
		Total Hardness (CaCO ₃)	IS 3025 (Part 21)	4.0 mg/l to 2000.0 mg/l
		Total Residual Free chlorine	APHA 4500 -CIG	0.02 mg/l to 2.00 mg/l
		Turbidity	IS 3025 (Part 10)	1.0 NTU to 100.0 NTU
II.	POLLUTION & ENVIRONMENT			
1.	Effluent /Waste Water	Ammonical Nitrogen /Free Ammonia	IS 3025 (Part 34)	0.02 mg/l to 2.5 mg/l
		Bio-chemical Oxygen Demand	IS 3025 (Part 44)	2.00 mg/l to 500000.00 mg/l
		Chemical Oxygen Demand	APHA, 5220 C	4.0 mg/l to 100000.0 mg/l
		Dissolved Phosphate	APHA, 4500 - P C	0.3 mg/l to 45.0 mg/l
		Fluoride	APHA, 4500 - F D	0.02 mg/l to 2.00 mg/l
		Hexavalent Chromium	APHA, 3500 - Cr B	0.01 mg/l to 1.0 mg/l
		Nitrate Nitrogen	APHA, 4500 - NO ₃ ⁻ B	0.5 mg/l to 100 mg/l
		Oil & Grease	IS 3025(Part 39)	5.0 mg/l to 1000.0 mg/l
		pH	IS 3025 (Part 11)	1 to 14.0
		Phenolic Compounds	APHA, 5530-C	0.001 mg/l to 0.25 mg/l
		Sulphide	APHA, 4500 - S ²⁻ D	0.005 mg/l to 0.9 mg/l
		Temperature	IS 3025 (Part 9)	4 °C to 80° C
		Total Kjeldahl Nitrogen	IS:3025(Part 34)	1.0 mg/l to 150.0 mg/l
		Total Residual Chlorine	APHA, 4500 - UG	0.02 mg/l to 10.0 mg/l

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		Total Suspended Solids	IS 3025 (Part 17)	10.0 mg/l to 5000.0 mg/l
III.	RESIDUE IN WATER			
2.	Trace Metal Elements	Arsenic	IS 3025(Part 37) APHA 3114C	2.0 µg/l to 1000.0 µg/l
		Boron	IS 3025 (Part 57) APHA, 4500 BC	0.2 mg/l to 15.0 mg/l
		Cadmium	IS:3025 (Part 41) APHA 3113 B	0.5 µg/l to 15.0 µg/l
		Chromium	IS 3025 (Part 52) APHA 3111B	0.04 mg/l to 15.0 mg/l
		Copper	IS 3025 (Part 42) APHA 3111B	0.03 mg/l to 10.0 mg/l
		Iron	IS 3025 (Part 53) APHA 3111B	0.06 mg/l to 15.0 mg/l
		Lead	IS 3025 (Part 47) APHA, 3113 B	5.0 µg/l to 1000.0 µg/l
		Manganese	IS 3025 (Part 59) APHA 3111B	0.02 mg/l to 5.0 mg/l
		Nickel	IS 3025 (Part 54) APHA 3111B	0.01 mg/l to 25.0 mg/l
		Selenium	IS 3025(Part 56) APHA 3114C	2.0 µg/l to 1000.0 µg/l
		Zinc	IS 3025 (Part 49) APHA 3111B	0.01 mg/l to 10 mg/l
IV.	ATMOSPHERIC POLLUTION			
1.	Ambient Air Quality	RPM (PM ₁₀)	IS 5182 (Part -23)	3.5 µg/m ³ to 1000 µg/m ³
		SO ₂	IS 5182 (Part-II)	25 µg/m ³ to 1050 µg/m ³
		NO _x	IS 5182 (Part - VI)	6 µg/m ³ to 750 µg/m ³