

Laboratory Environment Laboratory, Central Mine Planning & Design Institute Limited, Regional Institute-V, 1st Floor, CMPDI Office, CMPDI Complex, Seepat Road, Bilaspur, Chhattisgarh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7401

Page 1 of 3

Validity 25.02.2019 to 08.06.2020

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.	Drinking Water; Inland Surface Water; Ground Water	Alkalinity	IS 3025(Part 23)	5.0 mg/l to 1000.0 mg/l
		BOD (3 days 27 °C)	IS 3025 (Part 44)	2.0 mg/l to 70.0 mg/l
		Boron	APHA 4500-B	0.5 mg/l to 14.0 mg/l
		Calcium	IS 3025 (Part 40)	5.0 mg/l to 500.0 mg/l
		Chlorides	IS 3025 (Part 32)	5.0mg/l to 1000.0 mg/l
		Colour	APHA 2120-C	1.0 Hazen to 500.0 Hazen
		Dissolved Oxygen	IS 3025 (Part 38)	0.1 mg/l to 10.0 mg/l
		Free Ammonia	APHA 4500-NH ₃ F	0.1 mg/l to 10.0 mg/l
		Fluoride	APHA 4500 ^{F-, D}	0.1 mg/l to 5.0 mg/l
		Hexavalent Chromium	APHA 3500 -Cr ⁶⁺ B	0.05 mg/l to 5.00 mg/l
		Nitrate	APHA 4500-B	0.5 mg/l to 45 mg/l
		Oil & Grease	IS 3025 (Part 39)	4 mg/l to 100 mg/l
		pH value	IS 3025 (Part 11)	4.00 to 10.00
		Phenolic Compound	APHA 5530-C	0.001 mg/l to 0.2 mg/l
		Sulfate	APHA 4500- SO ₄ ²⁻ E	2 mg/l to 40 mg/l
Total Dissolved Solids	IS 3025 (Part 16)	30 mg/l to 2000 mg/l		
Total Hardness	IS 3025 (Part 21)	4 mg/l to 2000 mg/l		
Residual Free chlorine	APHA 4500-G	0.1 mg/l to 10.0 mg/l		
Turbidity	IS 3025 (Part 10)	1 NTU to 100 NTU		
II.	RESIDUES IN WATER			
1.	Trace Metals	Arsenic	IS 3025 (Part 37)	0.002 mg/l to 0.04 mg/l
		Cadmium	APHA 3111-B	0.001 mg/l to 0.01 mg/l
		Copper	IS 3025 (Part 42)	0.03 mg/l to 10.0 mg/l
		Iron	IS 3025 (Part 53)	0.05 mg/l to 15.0 mg/l

Laboratory

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Page 2 of 3

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		Lead	APHA 3113-B	0.005 mg/l to 0.100 mg/l
		Manganese	IS 3025 (Part 59)	0.05 mg/l to 5.0 mg/l
		Mercury	APHA 3112-B	0.001 mg/l to 0.102 mg/l
		Nickel	IS 3025 (Part 54)	0.1 mg/l to 20.0 mg/l
		Selenium	IS 3025 (Part 56)	0.001 mg/L to 0.040 mg/l
		Total Chromium	IS 3025 (Part 52)	0.05 mg/l to 15.0 mg/l
		Zinc	IS 3025 (Part 49)	0.01 mg/l to 2.0 mg/l
III.	POLLUTION & ENVIRONMENT			
1.	Effluent/ Waste Water	Ammonical Nitrogen	APHA 4500- NH ₃ F	0.02 mg/l to 2.5 mg/l
		BOD (3 days 27°C)	IS 3025 (Part 44)	2 mg/l to 300 mg/l
		Boron	APHA 4500-B	0.5 mg/l to 14.0 mg/l
		COD	APHA 5220-C	8 mg/l to 500 mg/l
		COD	APHA 5220-B	16 mg/l to 500 mg/l
		Color	APHA 2120-C	1.00 to 500.0 Hazen
		Dissolved Phosphate	APHA 4500-P-C	0.2 mg/l to 20.0 mg/l
		Free Ammonia	APHA 4500- NH ₃ F	0.1 mg/l to 10 mg/l
		Fluoride	APHA 4500 ^F , D	0.1 mg/l to 5.0 mg/l
		Hexavalent Chromium	APHA 3500 -Cr ⁶⁺ . B	0.05 mg/l to 5.0 mg/l
		Nitrate Nitrogen	APHA 4500-B	0.4 mg/l to 10.0 mg/l
		Oil & Grease	IS 3025(Part 39)	4 mg/l to 100 mg/l
		pH value	IS 3025 (Part 11)	1.00 to 14.00
		Phenolic Compound	APHA 5530-C	0.001 mg/l to 0.2 mg/l
		Sulfide	APHA 4500-S ²⁻ F	0.04 mg/l to 8.0 mg/l
		Temperature	IS 3025 (Part 9)	0.5°C to 60.0°C
		Total Kjeldahl Nitrogen	APHA 4500-B	5 mg/l to 150 mg/l
		Total Residual Chlorine	APHA 4500-G	0.02 mg/l to 2.00 mg/l
		Total Suspended Solid	IS 3025 (Part 17)	10 mg/l to 5000 mg/l

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Page 3 of 3

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IV.	ATMOSPHERIC POLLUTION			
1.	Ambient Air	PM10	IS 5182 (Part 23)	5 µg/m ³ to 1000 µg/m ³
		PM2.5	USEPA CFR 40	5 µg/m ³ to 500 µg/m ³
		SO2	IS 5182 (Part 2)	9 µg/m ³ to 1050 µg/m ³
		NO2	IS 5182 (Part 6)	6 µg/m ³ to 750 µg/m ³
		Lead	IS 5182 (Part 22)	0.01 ng/m ³ to 1000 ng/m ³
		Arsenic	USEPA Method IO-3.2	1 ng/m ³ to 1000 ng/m ³
		Nickel		
		Chromium	USEPA Method IO-3.2	1 ng/m ³ to 1000 ng/m ³
	Cadmium			