

Laboratory Environment Laboratory, Central Mine Planning & Design Institute Limited, Regional Institute-IV, Kasturba Nagar, Jaripatka, Nagpur, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7102 (in lieu of T-2969)

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Validity 24.05.2018 to 23.05.2020

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.	POLLUTION & ENVIRONMENT			
1.	Waste Water (Effluents/ Sewage)	Ammonical Nitrogen / Free Ammonia	IS 3025 Part-34	0.02 mg/L to 2.5 mg/L
		Arsenic	APHA	5.0 µg/l to 100.0 µg/l
		B.O.D (3 days 27°C)	IS 3025 Part-44	2.00 mg/L to 100.00 mg/L
		Cadmium	APHA	5.00 µg/L to 15.00 µg/L
		COD	APHA	4.0 mg/L to 800.0 mg/L
		Chromium	IS 3025 Part-52	0.06 mg/L to 15.0 mg/L
		Copper	IS 3025 Part-42	0.03 mg/L to 10.0 mg/L
		Dissolved Phosphate	APHA	0.3 mg/L to 45.0 mg/L
		Iron	IS 3025 Part-53	0.06 mg/L to 15.0 mg/L
		Fluoride	APHA	0.02 mg/L to 2.00 mg/L
		Hexavalent Chromium	APHA	0.01 mg/L to 0.7 mg/L
		Manganese	IS 3025 Part-59	0.02 mg/L to 5.0 mg/L
		Nickel	IS 3025 Part-54	0.1 mg/L to 20.0 mg/L
		Nitrate Nitrogen	APHA	0.5 mg/L to 45.0 mg/L
		Oil & Grease	IS 3025 Part-39	2.0 mg/L to 1000.0 mg/L
		Lead	APHA	7.0 µg/L to 100.0 µg/L
		pH value	IS 3025 Part-11	0.2 to 13.9
		Phenolic Compounds	APHA	0.002 mg/L to 0.25 mg/L
		Sulphide	APHA	0.1 mg/L to 20 mg/L
		Temperature	IS 3025 Part-9	4°C to 50°C
		Total Kjeldahl Nitrogen	APHA	1.0 mg/L to 150.0 mg/L
		Total Residual Chlorine	APHA	0.02 mg/L to 2.00 mg/L
		Total Suspended Solids	IS 3025 Part-17	10.0 mg/L to 5000.0 mg/L
		Zinc	IS 3025 Part-49	0.01 mg/L to 10 mg/L
	Color	IS 3025 Part-4	1 Hazen to 500 Hazen	
	Dissolved Oxygen	IS 3025 Part-38	0.1 mg/L to 10.0 mg/L	
	Odour	IS 3025 Part -5	Qualitative	

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		Turbidity	IS 3025 Part-10	1.0 NTU to 100.0 NTU
		Selenium	APHA	5.0 µg/l to 100.0 µg/l
II.	WATER			
1.	Surface Water	B.O.D (3 days 27°C)	IS 3025 Part-44	2.00 mg/L to 100.00 mg/L,
		Cadmium	APHA	5.00 mg/L to 15.00 µg/L,
		Chlorides	IS 3025 Part-32	2.0 mg/L to 1500.0 mg/L
		Color	APHA	1 Hazen to 500 Hazen
		Copper	IS 3025 Part-42	0.03 mg/L to 10.0 mg/L
		Dissolved Oxygen	IS 3025 Part-38	0.1 mg/L to 10.0 mg/L
		Iron	IS 3025 Part-53	0.06 mg/L to 15.0 mg/L
		Fluoride	APHA	0.02 mg/L to 2.00 mg/L
		Hexavalent Chromium	APHA	0.01 mg/L to 0.7 mg/L
		Nitrate	APHA	0.5 mg/L to 45.0 mg/L
		Lead	APHA	7.0 mg/L to 100.0 µg/L
		pH value	IS 3025 Part-11	2 to 12
		Phenolic compounds	APHA	0.002 mg/L to 0.25 mg/L
		Sulphate	APHA	2.0 mg/L to 70.0 mg/L
		Total Dissolved Solids	IS 3025 Part-16	25.0 mg/L to 5000.0 mg/L
		Total Suspended Solids	IS 3025 Part-17	10.0 mg/L to 5000.0 mg/L
		Zinc	IS 3025 Part-49	0.01 mg/L to 10 mg/L
2.	Water Drinking Water	Alkalinity	IS 3025 Part-23	4.0 mg/L to 2000.0 mg/L
		Aluminum	APHA	0.005 µg/L to 0.2 mg/l
		Arsenic	APHA	5.0 µg/L to 100.0 µg/L
		Boron	APHA	0.2 mg/L to 15.0 mg/L
		Calcium	IS 3025 Part-40	1.6 mg/L to 800.0 mg/L
		Cadmium	APHA	5.00 µg/L to 15.00 µg/L,
		Chlorides	IS 3025 Part-32	2.0 mg/L to 1500.0 mg/L
		Chromium	IS 3025 Part-52	0.06 mg/L to 15.0 mg/L
		Copper	IS 3025 Part-42	0.03 mg/L to 10.0 mg/L
		Iron	IS 3025 Part-53	0.06 mg/L to 15.0 mg/L
		Fluoride	APHA	0.02 mg/L to 2.00 mg/L

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		Sulphide	APHA	0.1 mg/L to 20 mg/L
		Manganese	IS 3025 Part-59	0.02 mg/L to 5.0 mg/L
		Nickel	IS 3025 Part-54	0.1 mg/L to 20.0 mg/L
		Nitrate	APHA	0.5 mg/L to 45.0 mg/L
		Lead	APHA	5.0 µg/L to 100.0 µg/L
		pH value	IS 3025 Part-11	2 to 12
		Phenolic Compounds	APHA	0.002 mg/L to 0.25 mg/L
		Sulphate	APHA	2.0 mg/L to 70.0 mg/L
		Taste	IS 3025 Part-7	Qualitative
		Selenium	APHA	5.0 µg/L to 100.0 µg/L
		Total Dissolved Solids	IS 3025 Part-16	25.0 mg/L to 5500.0 mg/L
		Total Hardness (CaCO ₃)	IS 3025 Part-21	4.0 mg/L to 2000.0 mg/L
		Total Residual Free Chlorine	APHA	0.02 mg/L to 2.00 mg/L
		Turbidity	IS 3025 Part-10	1.0 NTU to 100.0 NTU
		Zinc	IS 3025 Part-49	0.01 NTU to 10 mg/L
		Odour	IS 3025 Part-5	Qualitative
III.	ATMOSPHERIC POLLUTION			
1.	Ambient air	PM ₁₀	IS 5182 Part -23	5 µg/m ³ to 1000 µg/m ³
		PM _{2.5}	USEPA Quality Assurance Guidance Document Volume-II (Part- II) - 2.12	2 µg/m ³ to 200 µg/m ³
		SO ₂	IS 5182 Part-2	10 µg/m ³ to 1050 µg/m ³
		NO ₂	IS 5182 Part-6	6 µg/m ³ to 750 µg/m ³
		Pb	IS 5182 Part-22	7.0 µg/m ³ to 10000 µg/m ³
		As	ASTM D 4185	0.7 ng/m ³ to 1000 ng/m ³
		Ni		7.0 ng/m ³ to 5000 ng/m ³
		Cd		1.5 ng/m ³ to 1000 ng/m ³
		Cr		4.5 ng/m ³ to 5000 ng/m ³