

Laboratory Environment Laboratory of GITCO Ltd. "GITCO House" Stadium Road, Navrangpura, Ahmedabad, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7816 (in lieu of T-3147)

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Validity 19.10.2018 to 18.10.2020

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<u>CHEMICAL TESTING</u>				
I.	WATER			
1.	Surface Water / Ground Water	Acidity	IS 3025 (Part 22): 1986 (RA 2014)	2 mg/L to 5000 mg/L
		Alkalinity	APHA (23 rd Edition) 2320 B: 2017	2 mg/L to 5000 mg/L
		Total Hardness	APHA (23 rd Edition) 2340 C: 2017	2 mg/L to 5000 mg/L
		Calcium Hardness	APHA (23 rd Edition) 3500 Ca B: 2017	2 mg/L to 5000 mg/L
		Calcium as Ca	APHA (23 rd Edition) 3500 Ca B: 2017	2 mg/L to 5000 mg/L
		Magnesium Hardness	APHA (23 rd Edition) 3500 Mg B: 2017	2 mg/L to 1200 mg/L
		Magnesium as Mg	APHA (23 rd Edition) 3500 Mg B: 2017	2 mg/L to 1200 mg/L
		Chloride	APHA (23 rd Edition) 4500 Cl ⁻ B: 2017	0.5 mg/L to 50000 mg/L
		Chemical Oxygen Demand (COD)	APHA (23 rd Edition) 5220 B: 2017	4 mg/L to 10000 mg/L
		Biochemical Oxygen Demand (BOD)	IS 3025 (Part 44): 1993 (RA 2014)	2 mg/L to 1800 mg/L
		Dissolved Oxygen (DO)	IS 3025 (Part 38): 1989 (RA 2014)	0.5 mg/L to 10 mg/L
		Ammonical Nitrogen	APHA (23 rd Edition) 4500 NH ₃ C: 2017	0.2 mg/L to 280.0 mg/L
		Oil and grease	IS 3025 (Part 39): 1991 (RA 2003)	1 mg/L to 100 mg/L
		Sulphate	APHA (23 rd Edition) 4500 SO ₄ ⁻² E: 2017	1 mg/L to 10000 mg/L
		Phenol	APHA (23 rd Edition) 5530 D: 2017	0.1 mg/L to 100.00 mg/L

Mitali Gupta
Convenor

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		Flouride	APHA (23 rd Edition) 4500 F D: 2017	0.1 mg/L to 10.00 mg/L
		Copper	APHA (23 rd Edition) 3500 Cu B: 2017	0.01 mg/L to 15.00 mg/L
		Phosphate	APHA (23 rd Edition) 4500 P D: 2017	0.1 mg/L to 20.00 mg/L
		Iron	APHA (23 rd Edition) 3500 Fe B: 2017	0.01 mg/L to 50.00 mg/L
		Hexavelent Chromium	APHA (23 rd Edition) 3500 Cr ⁺⁶ B: 2017	0.01 mg/L to 30.00 mg/L
		Colour	APHA (23 rd Edition) 2120 C: 2017	5 Pt. Co. unit to 500 Pt. Co. unit
		pH	IS 3025 (Part 11): 1983 (RA 2017)	2.0 to 12.0
		Total Solids (TS)	APHA (23 rd Edition) 2540 B: 2017	6 mg/L to 50000 mg/L
		Total Dissolved Solids (TDS)	APHA (23 rd Edition) 2540 C: 2017	5 mg/L to 50000 mg/L
		Total Suspended Solids (TSS)	APHA (23 rd Edition) 2540 D: 2017	5 mg/L to 10000 mg/L
		Fixed and Volatile Solids	APHA (23 rd Edition) 2540 E: 2017	5 mg/L to 10000 mg/L
		Conductivity	APHA (23 rd Edition) 2510 B: 2017	0.001 mS/cm to 200 mS/cm
		Sodium as Na	APHA (23 rd Edition) 3500 Na B: 2017	1 mg/L to 10000 mg/L
		Potassium as K	APHA (23 rd Edition) 3500 K B: 2017	1 mg/L to 10000 mg/L
		Nitrite	APHA (23 rd Edition) 4500 NO ₂ ⁻ B: 2017	0.05 mg/L to 2.00 mg/L
II.	POLLUTION & ENVIRONMENT			
1.	Liquid effluent (Sewage, effluent and waste water)	Acidity	IS 3025 (Part 22): 1986 (RA 2014)	2 mg/L to 5000 mg/L

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		Alkalinity	APHA (23 rd Edition) 2320 B: 2017	2 mg/L to 5000 mg/L
		Total Hardness	APHA (23 rd Edition) 2340 C: 2017	2 mg/L to 5000 mg/L
		Calcium Hardness	APHA (23 rd Edition) 3500 Ca B: 2017	2 mg/L to 5000 mg/L
		Calcium as Ca	APHA (23 rd Edition) 3500 Ca B: 2017	2 mg/L to 5000 mg/L
		Magnesium Hardness	APHA (23 rd Edition) 3500 Mg B: 2017	2 mg/L to 1200 mg/L
		Magnesium as mg	APHA (23 rd Edition) 3500 Mg B: 2017	2 mg/L to 1200 mg/L
		Chloride	APHA (23 rd Edition) 4500 Cl ⁻ B: 2017	0.5 mg/L to 100000 mg/L
		Chemical Oxygen Demand (COD)	APHA (23 rd Edition) 5220 B: 2017	4 mg/L to 30000 mg/L
		Biochemical Oxygen Demand (BOD)	IS 3025 (Part 44): 1993 (RA 2014)	2 mg/L to 10000 mg/L
		Dissolved Oxygen (DO)	IS 3025 (Part 38): 1989 (RA 2014)	0.1 mg/L to 10 mg/L
		Ammonical Nitrogen	APHA (23 rd Edition) 4500 NH ₃ C: 2017	0.2 mg/L to 2800.0 mg/L
		Oil and Grease	IS 3025 (Part 39): 1991 (RA 2003)	1 mg/L to 100 mg/L
		Sulphate	APHA (23 rd Edition) 4500 SO ₄ ⁻² E: 2017	1 mg/L to 50000 mg/L
		Phenol	APHA (23 rd Edition) 5530 D: 2017	0.1 mg/L to 100.00 mg/L
		Fluoride	APHA (23 rd Edition) 4500 F D: 2017	0.1 mg/L to 10.00 mg/L
		Copper	APHA (23 rd Edition) 3500 Cu B: 2017	0.01 mg/L to 15.00 mg/L
		Phosphate	APHA (23 rd Edition) 4500 P D: 2017	0.1 mg/L to 20.00 mg/L

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		Iron	APHA (23 rd Edition) 3500 Fe B: 2017	0.01 mg/L to 50.00 mg/L
		Hexavalent Chromium	APHA (23 rd Edition) 3500 Cr ⁺⁶ B: 2017	0.01 mg/L to 30.00 mg/L
		Colour	APHA (23 rd Edition) 2120 C: 2017	5 Pt. Co. Unit to 500 Pt. Co. Unit
		pH	IS 3025 (Part 11): 1983 (RA 2017)	2.0 to 12.0
		Total Solids (TS)	APHA (23 rd Edition) 2540 B: 2017	6 mg/L to 50000 mg/L
		Total Dissolved Solids (TDS)	APHA (23 rd Edition) 2540 C: 2017	5 mg/L to 50000 mg/L
		Total Suspended Solids (TSS)	APHA (23 rd Edition) 2540 D: 2017	5 mg/L to 10000 mg/L
		Fixed and Volatile Solids	APHA (23 rd Edition) 2540 E: 2017	5 mg/L to 10000 mg/L
		Conductivity	APHA (23 rd Edition) 2510 B: 2017	0.001 mS/cm to 200 mS/cm
		Sodium as Na	APHA (23 rd Edition) 3500 Na B: 2017	1 mg/L to 10000 mg/L
		Potassium as K	APHA (23 rd Edition) 3500 K B: 2017	1 mg/L to 10000 mg/L
		Nitrite	APHA (23 rd Edition) 4500 NO ₂ ⁻ B: 2017	0.05 mg/L to 2.00 mg/L
III.	ATMOSPHERIC POLLUTION			
1.	Air gases and Atmosphere, Ambient air Monitoring	Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001 (RA 2017)	4 µg/m ³ to 200 µg/m ³
		Oxide of Nitrogen (NO _x)	IS 5182 (Part 6): 2006 (RA 2017)	6.5 µg/m ³ to 750 µg/m ³
		Particulate matters (PM ₁₀)	IS 5182 (Part 23): 2006 (RA 2017)	10 µg/m ³ to 1000 µg/m ³
		Particulate matters (PM _{2.5})	W/OPN/05, Issue No.: 02, Issue Date: 28.06.2016, Based on CPCB guidelines 2011	20 µg/m ³ to 200 µg/m ³

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		Ammonia	W/OPN/05, Issue No.: 02, Issue Date: `28.06.2016, based on APHA Air 3 rd Edition-401	5 µg/m ³ to 700 µg/m ³
		Chlorine	IS 5182 (Part 19): 1988 (RA 2009)	5 µg/m ³ to 100 µg/m ³
2.	Air gases and Atmosphere, Stack Emssion	Sulphur Dioxide (SO ₂)	IS 11255 (Part 2): 1985 (RA 2014)	4 mg/Nm ³ to 400 mg/Nm ³ (1.5 ppm to 152.9 ppm)
		Oxide of Nitrogen	IS 11255 (Part 7): 2005 (RA 2017)	8 mg/Nm ³ to 1000 mg/Nm ³ (4.0 ppm to 532.0 ppm)
		Particulate Matter (PM)	IS 11255 (Part 1): 1985 (RA 2014)	1 mg/Nm ³ to 500 mg/Nm ³
		Ammonia	IS 11255 (Part 6) : 1999 (RA 2014)	0.5 mg/Nm ³ to 250 mg/Nm ³