

Laboratory **Horizon Services (Analytical Laboratory), Shree K 3/4, S. No. 10, Erandawane Housing Society, Pune, Maharashtra**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-7064 (in lieu of T-2874)**

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Validity **11.03.2018 to 10.03.2020**

Last Amended on **22.03.2018**

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.	<b>ATMOSPHERIC POLLUTION</b>			
<b>1</b>	<b>Ambient Air Quality Monitoring</b>	Respirable Suspended Particulate Matter (PM <sub>10</sub> )	IS 5182 (Part 23): 2006	10µg/m <sup>3</sup> to 500 µg/m <sup>3</sup>
		Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001	10µg/m <sup>3</sup> to 200 µg/m <sup>3</sup>
		Oxides Of Nitrogen (NOx)	IS 5182 (Part 6): 2006	4µg/m <sup>3</sup> to 200 µg/m <sup>3</sup>
		Ammonia (NH <sub>3</sub> )	APHA -3 <sup>rd</sup> Edition-1989, Method No. 401, (Indophenol Method)	10µg/m <sup>3</sup> to 200 µg/m <sup>3</sup>
		Lead (Pb)	IS 5182 (Part 22): 2006	0.05µg/m <sup>3</sup> to 5 µg/m <sup>3</sup>
		Nickel as Ni	IS 5182 (Part 23) & NAAQS Guidelines CPCB Volume I- May 2011	1 ng/m <sup>3</sup> to 5 ng/m <sup>3</sup>
		PM <sub>2.5</sub>	HS/LAB/NABL/Air/ 12-13/2 Issue No. 01 dtd.: 01/01/2013	80µg/m <sup>3</sup> to 300 µg/m <sup>3</sup>
<b>2</b>	<b>Stack Emission Monitoring</b>	Particulate Matter (PM)	IS 11255 (Part 1): 1985 (RA 2003)	5 mg/Nm <sup>3</sup> to 2000 mg/Nm <sup>3</sup>
		SO <sub>2</sub>	IS 11255 (Part 2): (RA 1995)	2 mg/Nm <sup>3</sup> to 500 mg/Nm <sup>3</sup>
		Carbon Dioxide CO <sub>2</sub>	HS/LAB/NABL/Air/ 12-13/14 Issue No. 01, dated 01/01/2013	0.1% to 21%
		Oxygen O <sub>2</sub>	HS/LAB/NABL/Air/ 12-13/14, Issue No. 01, dated 01/01/2013	0.1% to 21%
<b>3</b>	<b>Work-zone Air Monitoring</b>	Suspended Particulate Matter (SPM)	IS 5182 (Part 4) :1999 (Gravimetric Method)	30 µg/m <sup>3</sup> to 10000 µg/m <sup>3</sup>
		Oxides of Sulphur (SO <sub>2</sub> )	IS 5182 (Part 2): 2001 APHA - 3 <sup>rd</sup> Edition-1989, SOP 704A page No. 493	5.0µg/m <sup>3</sup> to 150 µg/m <sup>3</sup>

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		Oxide of Nitrogen (NOx)	IS 5182 (Part 6) :2006 APHA -3 <sup>rd</sup> Edition-1989, SOP 818 page No. 601	5.0µg/m <sup>3</sup> to 150 µg/m <sup>3</sup>
4	Ambient Noise Level Monitoring	Leq. 24 hours (Day and Night)	IS 9989-1981 (RA 2001)	30 dB(A) to 130 dB(A)
5	DG Noise	Source Noise	IS 4758-1968 (RA 2002) & IS/ ISO 8528(Part 10) : 1998	30 dB(A) to 130 dB(A)
6	Illumination Monitoring	Luminance	HS/LAB/NABL/ILL/01, based on IS 3646 Part I & II - 1992 and IS 6685-1972	10 LUX to 5,000 LUX
II.	WATER			
1.	Ground / Surface / Potable Water Sample	pH	APHA 23 <sup>rd</sup> 2017 Edition 4500-H+B. - 2012	2 to 12
		Total Dissolved Solids	APHA 23 <sup>rd</sup> 2017 Edition 2540C	4 mg/L to 2500 mg/L
		Chlorides as Cl <sup>-</sup>	APHA 23 <sup>rd</sup> 2017 Edition 4500Cl <sup>-</sup> B	2 mg/L to 8000 mg/L
		Sulphates as SO <sub>4</sub> <sup>--</sup>	APHA 23 <sup>rd</sup> 2017 Edition 4500SO <sub>4</sub> E	2 mg/L to 5000 mg/L
		Calcium as Ca	APHA 23 <sup>rd</sup> 2017 Edition 3500CaB	4 mg/L to 3000 mg/L
		Magnesium as Mg	APHA 23 <sup>rd</sup> 2017 Edition 3500Mg B	4 mg/L to 2000 mg/L
		Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> 2017 Edition 2340C	4 mg/L to 6000 mg/L
		Iron as Fe	APHA 23 <sup>rd</sup> 2017 Edition 3500FeB	0.1 mg/L to 5.0 mg/L
		Electric Conductivity	APHA 23 <sup>rd</sup> 2017 Edition 2510 B	2 µs/cm to 45000 µs/cm

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		Turbidity	APHA 23 <sup>rd</sup> 2017 Edition 2130 B	5 NTU to 200 NTU
		Hexa-valent Chromium as Cr6+	APHA 23 <sup>rd</sup> 2017 Edition 3500-Cr B	0.05 mg/L to 10 mg/L
<b>III.</b>	<b>POLLUTION &amp; ENVIRONMENT</b>			
<b>1.</b>	<b>Soil</b>	pH	IS 2720 (Part 26) - 1987	2 to 12
		Electric Conductivity	IS 14767: 2000	4 $\mu$ hos/cm to 1410 $\mu$ hos/cm
		Available Nitrogen as N	IS 14684:1999	2.5 Kg/ha to 140 Kg/ha
		Available Phosphorus as P	HS/NABL/SOIL/ 8 Issue No: 00 Rev. No: 00 dtd. 5/5/2012	2 Kg/ha to 75 Kg/ha
		Available Potassium as K	IS 9497: 1980 (RA 1998) (Flame Photometric)	4 Kg/ha to 360 Kg/ha
		Sodium as Na	IS 9497: 1980 (RA 1998) (Flame Photometric)	10 mg/kg to 250 mg/kg
		Calcium Carbonate as CaCO <sub>3</sub>	IS 2720 (Part XXIII)-1976	10 mg/kg to 2000 mg/kg
		Exchangeable Magnesium as Mg	HS/NABL/SOIL/ 5 Issue No: 00 Rev. No: 00 dtd. 5/5/2012	4 mg/kg to 300 mg/kg
		Sulphates as SO <sub>4</sub>	IS 2720 (Part 27) - 1977 (RA 2010)- Calorimetric or Turbidimetric Method	4 mg/kg to 500 mg/kg
		Copper as Cu	HS/NABL/SOIL/ 11 Issue No: 00 Rev. No: 00 dtd. 5/5/2012	1 mg/kg to 10 mg/kg
		Zinc as Zn	HS/NABL/SOIL/ 11 Issue No: 00 Rev. No: 00 dtd. 5/5/2012	1 mg/kg to 5 mg/kg

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		Water Content	IS 2720 (Part II)- 1973	3% to 60%
		Total Organic Matter	IS 2720 (Part XXII)-1972	1% to 5%
2.	Effluent Water	pH	APHA 23 <sup>rd</sup> 2017 4500-H+B,	2 to 12
		Total Suspended Solids	APHA 23 <sup>rd</sup> 2017 2540D	4 mg/L to 10,000 mg/L
		Total Dissolved Solids	APHA 23 <sup>rd</sup> 2017 2540C	4 mg/L to 60,000 mg/L
		Chemical Oxygen Demand (COD)	APHA 23 <sup>rd</sup> 2017 5220C	2 mg/L to 100,000 mg/L
		Biochemical Oxygen Demand (BOD)	APHA 23 <sup>rd</sup> 2017 5210 B	2 mg/L to 25,000 mg/L
		Chlorides as Cl <sup>-</sup>	APHA 23 <sup>rd</sup> 2017 4500Cl-B	2 mg/L to 10,000 mg/L
		Sulphates as SO <sub>4</sub> <sup>--</sup>	APHA 23 <sup>rd</sup> 2017 4500SO <sub>4</sub> E	2 mg/L to 8000 mg/L
		Oil & Grease	APHA 23 <sup>rd</sup> 2017 5520B	2 mg/L to 1000 mg/L
		Electric Conductivity (µs/cm)	APHA 23 <sup>rd</sup> 2017 2510	1 µs/cm to 45000 µs/cm
		Phosphorus as P	APHA 23 <sup>rd</sup> 2017 4500-P D	0.01 mg/L to 100 mg/L
		Sodium as Na	APHA 23 <sup>rd</sup> 2017 3500-Na B	1 mg/L to 1000 mg/L
		Potassium as K	APHA 23 <sup>rd</sup> 2017 3500-K B	10 mg/L to 800 mg/L
		Hexa-valent Chromium as Cr <sup>6+</sup>	APHA 23 <sup>rd</sup> 2017 3500-Cr B	0.05 mg/L to 10 mg/L
		Copper as Cu	APHA 23 <sup>rd</sup> 2017 3111-B	0.1 mg/L to 15 mg/L
		Lead as Pb	APHA 23 <sup>rd</sup> 2017 3111-B	0.1 mg/L to 10 mg/L
		Nickel as Ni	APHA 23 <sup>rd</sup> 2017 3111-B	0.1 mg/L to 3 mg/L
		Cadmium as Cd	A APHA 23 <sup>rd</sup> 2017 3111-B	0.1 mg/L to 3 mg/L