Laboratory	**SCS Enviro Services Private Limited, 7, Kesar Vihar, Ramnagariya Road, Jagatpura, Jaipur, Rajasthan**	
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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
			CHEMICAL TESTING	
I.	**ATMOSPHERIC POLUTION**			
1.	**Ambient Air**	Suspended Particulate Matter	IS 5182 (Part 4): 1999 RA2005	10 µg/m^3 to 5000 µg/m^3
		Particulate Matters (size less than 10 µm) or PM_{10} µg/m^3	IS 5182 (Part 23): 2006	5 µg/m^3 to 2500 µg/m^3
		Particulate Matters (size less than 2.5 µm) or $PM_{2.5}$ µg/m^3	CARB SOP MLD 055 PM 2.5 gravimetric analysis- revision 9, July 2008 Page 1 of 32 (RTI, US)	5 µg/m^3 to 500 µg/m^3
		Sulphur Dioxide (SO_2)	IS 5182 (Part 2): 2001 (RA 2006)	6 µg/m^3 to 1050 µg/m^3
		Oxides of Nitrogen (NO_x)	IS 5182 (Part 6): 2006	6 µg/m^3 to 750 µg/m^3
		CO	IS 5182 (Part 10): 1999 (RA 2003)	114.5 µg/m^3 to 5725 µg/m^3
		Ammonia as NH_3	Indophenol Method (Method 401, Air sampling and analysis) 3rd Edition	20 µg/m^3 to 700 µg/m^3
		Ozone	IS 5182 (Part 9): 1974 (RA 2009)	19.6 µg/m^3 to 19620 µg/m^3
		Lead	IS 5182 (Part 22): 2004 (RA 2009)	0.1 µg/m^3 to 20 µg/m^3
		Nickel	IS 5182 (Part 22): 2004 (RA 2009)	0.1 ng/m^3 to 200 ng/m^3
		Arsenic	IS 5182 (Part 22): 2004 (RA 2009)	1 ng/m^3 to 20 ng/m^3
2.	**Work Zone Monitoring**	Suspended Particulate Matter	IS 5182 (Part 4): 1999 (RA 2005)	10 µg/m^3 to 5000 µg/m^3

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		Arsenic	IS 5182 (Part 22): 2004 (RA 2009)	1 µg/m^3 to 100 µg/m^3
3.	**Stack Emission**	Particulate Matter	IS 11255 (Part 1): 1985 (RA 2009)	5 mg/Nm^3 to 10000 mg/Nm^3
		Sulphur Dioxide SO_2	IS 11255 (Part 2): 1985 (RA 2009)	4 mg/$Nm^3$to 5000 mg/Nm^3
		Oxides of Nitrogen NO_x	SCS/AIR/SOP/14 Dated 15.11.2017 based on manufactures manual	2 mg/Nm^3 to 750 mg/Nm^3
		CO		0.1 ppm to 5.0 ppm
		CO_2		0.2 % to 20.0 %
		O_2		0.2 % to 20 %
		Total Fluorides	IS 11255 (Part 5): 1990 (RA 1999)	2.0 mg/Nm^3 to 100 mg/Nm^3
		Cadmium as Cd	IS 11255 (Part 1): 1985 (RA 2003)	0.05 µg/Nm^3 to 100 µg/Nm^3
		Lead as Pb	IS 11255 (Part 1): 1985 (RA 2003)	0.05 µg/Nm^3 to 100 µg/Nm^3
		Zinc as Zn	IS 11255 (Part 1): 1985 (RA 2003)	0.05 µg/Nm^3 to 100 µg/Nm^3
4.	**Meteorological Parameters**	Wind Speed	SCS/AIR/SOP/15 Dated 15.11.2017 based on manufactures manual	1 m/s to 80 m/s
		Wind Direction		0 to 360^0
		Rainfall		0 to 999.8 mm (Daily Rain)
		Relative Humidity		1 % to 100 %
		Temperature		0 to 60 ºC
5.	**Noise – Ambient and Source**	Noise Level-Ambient Noise	IS 9876:1981 (RA 2001)	35 dB to 120 dB
		Noise Level –Source	IS 4758:1968 (RA 1989)	35 dB to 120 dB
II.	**WATER**			
1.	**Surface Water / Ground Water / Drinking Water / Package Drinking**	pH	APHA (22nd Edition) 4500-H:2012	2 to 13
		Color	APHA (22nd Edition) 2120 : 2012	1 Hazen to 100 Hazen

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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
	Water / Swimming Pool Water / Industrial Water / Irrigation Water / Water from Purifiers	Turbidity	APHA (22nd Edition) 2130: 2012	0.1 NTU to 1000 NTU
		Electrical Conductivity	APHA (22nd Edition) 2510 B: 2012	1 µMhos/cm to 10000 µMhos/cm
		Total dissolve solids	APHA (22nd Edition) 2540 C : 2012	5 mg/l to 50000 mg/l
		Calcium as Ca^{+2}	APHA (22nd Edition) 3500 Ca B : 2012	2 mg/l to 2000 mg/l
		Magnesium as Mg^{+2}	APHA (22nd Edition) 3500 Mg B : 2012	2 mg/l to 2000 mg/l
		Total hardness as $CaCO_3$	APHA (22nd Edition) 2340 C : 2012	10 mg/l to 5000 mg/l
		Total Alkalinity as $CaCO_3$	APHA (22nd Edition) 2320 : 2012	10 mg/l to 2500 mg/l
		Chlorides as Cl	APHA (22nd Edition) 4500Cl B: 2012	5 mg/l to 10000 mg/l
		Total Chromium	APHA (22nd Edition) 3112 B: 2012	0.1 mg/l to 15 mg/l
		Fluoride as F	APHA (22nd Edition) 4500 F D 2012	0.1 mg/l to 15 mg/l
		Iron as Fe	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 50 mg/l
		Sulphate as SO_4	APHA (22nd Edition) 4500E: 2012	5 mg/l to 5000 mg/l
		Copper as Cu	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 50 mg/l
		Cadmium as Cd	APHA (22nd Edition) 3111 B: 2012	0.003 mg/l to 10 mg/l
		Lead as Pb	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 10 mg/l
		Zinc as Zn	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 50 mg/l
		Free Residual Chlorine	APHA (22nd Edition) 4500 B: 2012	0.2 mg/l to 5 mg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Manganese as Mn	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 10 mg/l
		Nitrate as NO_3	APHA (22nd Edition) 4500 B: 2012	0.5 mg/l to 500 mg/l
		Sulphide as S	APHA (22nd Edition) 4500 F: 2012	0.2 mg/l to 5 mg/l
		Phenolic Compounds (as C6H5OH)	APHA-(22nd Edition) 5530 C	0.001 mg/l to 10 mg/l
		Nickel as Ni	APHA (22nd Edition) 3111 B	0.01 to 50 mg/l
		Arsenic as As	APHA (22nd Edition) 3114 B	0.005 to 10 mg/l
		Temperature	APHA (22nd Edition) 2550 B	1 °C to 70 °C
		Boron as B	APHA (22nd Edition) 4500-B - B	0.1 mg/l to 10 mg/l
		Aluminium as Al	APHA (22nd Edition) 3111 D	0.01 mg/l to 10 mg/l
		Selenium as Se	APHA (22nd Edition) 3114 B & C	0.01 mg/l to 10 mg/l
		Mercury as Hg	APHA (22nd Edition) 3112 B	0.001 mg/l to 10 mg/l
		Total Solids	APHA (22nd Edition) 2540 B	5 mg/l to 50000 mg/l
		Total Volatile Solids	APHA (22nd Edition) 2540 E	2 mg/l to 5000 mg/l
2.	**Construction Water**	Volume of 0.02 N NaOH required to neutralize 100 ml sample of water (Acidity)	IS 456/3025 (Part 22): 1986	0.1 ml to 25 ml
		Volume of 0.02 N H2SO4 required to neutralize 100 ml sample of water (Alkalinity)	IS 456/3025 (Part 23): 1986	0.1 ml to 50 ml

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Organic Matter	IS 456/3025 (Part 18): 1984	0.5 mg/l to 500 mg/l
		Inorganic Matter	IS 456/3025 (Part 18): 1984	5 mg/l to 5000 mg/l
		Sulphates	IS 456/3025 (Part 24): 1986	0.5 mg/l to 2000 mg/l
		Chlorides	IS 456/3025 (Part 32): 1988	0.5 mg/l to 2000 mg/l
		Total Suspended Matter	IS 456/3025 (Part 17): 1984	0.5 mg/l to 1000 mg/l
		pH	IS 3025 (Part 11): 1983	2 to 13
III.	**POLLUTION AND ENVIRONMENT**			
1.	**Waste Sample (Effluent/Sewage)**	pH	APHA (22nd Edition) 4500-H :2012	2 to 13
		Electric conductivity	APHA (22nd Edition) 2510 B: 2012	1 µMhos/cm to 50000 µMhos/cm
		Total suspended solids	APHA (22nd Edition) 2540 D: 2012	5 mg/l to 5000 mg/l
		Total dissolve solids	APHA (22nd Edition) 2540 C: 2012	5 mg/l to 50000 mg/l
		Calcium as Ca	APHA (22nd Edition) 3500 B: 2012	2 mg/l to 2000 mg/l
		Magnesium as Mg	APHA (22nd Edition) 3500 B: 2012	2 mg/l to 2000 mg/l
		Total hardness as $CaCO_3$	APHA (22nd Edition) 2340 C: 2012	2 mg/l to 10000 mg/l
		Total Alkalinity as $CaCO_3$	APHA (22nd Edition) 2320 B: 2012	2 mg/l to 5000 mg/l
		Chlorides as Cl	APHA (22nd Edition) 4500Cl B: 2012	5 mg/l to 2000 mg/l
		BOD (Biochemical Oxygen Demand) 3 Days at 27 ^oC	IS 3025 (Part 44):1993	2 mg/l to 50000 mg/l
		COD (Chemical Oxygen Demand)	APHA (22nd Edition) 5220 B: 2012	5 mg/l to 150000 mg/l

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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
		Dissolve oxygen (DO)	APHA (22nd Edition) 4500 DO C: 2012	1 mg/l to 10 mg/l
		Fluoride as F^-	APHA (22nd Edition) 4500 F-D: 2012	0.1 mg/l to 15 mg/l
		Iron as Fe^{2+}	APHA (22nd Edition)3111 B: 2012	0.1 mg/l to 100 mg/l
		Phosphate (as PO_4)	APHA (22nd Edition) 4500P-C: 2012	0.5 mg/l to 20 mg/l
		Sulphate (as SO_4)	APHA (22nd Edition) 4500 So_4- E :2012	4 mg/l to 5000 mg/l
		Oil & Grease	APHA (22nd Edition) 5520 B: 2012	5 mg/l to 500 mg/l
		Copper as Cu	APHA (22nd Edition)3111 B: 2012	0.01 mg/l to 100 mg/l
		Sodium as Na	APHA (22nd Edition) 3500 Na B:2012	1 mg/l to 5000 mg/l
		Potassium as K	APHA (22nd Edition) 3500 K B:2012	1 mg/l to 5000 mg/l
		Cadmium as Cd	APHA (22nd Edition) 5320 B: 2012	0.01 mg/l to 20 mg/l
		Lead as Pb	APHA (22nd Edition) 5320 B: 2012	0.01 mg/l to 50 mg/l
		Zinc	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 100 mg/l
		Manganese as Mn	APHA (22nd Edition) 3111 B: 2012	0.01 mg/l to 20 mg/l
		Nitrate as NO_3	APHA (22nd Edition) 4500 B: 2012	0.5 mg/l to 500 mg/l
		Sulphide as S	APHA (22nd Edition) 4500 S F: 2012	0.5 mg/l to 10 mg/l
		Nickel as Ni	APHA (22nd Edition) 3111 B	0.01 mg/l to 20 mg/l
		Arsenic as As	APHA (22nd Edition) 3114 B	0.002 mg/l to 10 mg/l
		Chromium as Cr	APHA (22nd Edition) 3111 B	0.01 mg/l to 20 mg/l
		Cobalt as Co	APHA (22nd Edition) 3111 B	0.05 mg/l to 100 mg/l

Ranjith Kumar
Convenor

Alok Jain
Program Director

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Temperature	APHA (22nd Edition) 2550 B	1 °C to 90 °C
		Ammonical nitrogen	APHA-(22nd Edition) 4500 NH_3 B/C	5 mg/l to 1000 mg/l
		Total kjeldahl's Nitrogen (as N)	APHA-(22nd Edition) 4500 N_{org} B & C	0.5 mg/l to 1000 mg/l
		Hexavalent chromium as Cr^{+6}	APHA-(22nd Edition) 3500 Cr B	0.01 mg/l to 10 mg/l
		Boron as B	APHA (22nd Edition) 4500-B - B	0.1 mg/l to 50 mg/l
		Selenium as Se	APHA (22nd Edition) 3111 B	0.01 mg/l to 10 mg/l
		Aluminium as Al	APHA (22nd Edition) 3111 B	0.1 mg/l to 10 mg/l
		Mercury as Hg	APHA (22nd Edition) 3112 B	0.001 mg/l to 50 mg/l
		Total Solids	APHA (22nd Edition) 2540 B	10 mg/l to 50000 mg/l
		Volatile Solids	APHA (22nd Edition) 2540 E	10 mg/l to 10000 mg/l
		Phenolic compounds	APHA-(22nd Edition) 5530 C	0.01 mg/l to 100 mg/l
2.	**Soil and Sediments**	pH	IS 2720 (Part 26) RA 2011	2.0 to 14.0
		Electric conductivity	IS 14767:2000	0.1 mS/cm to 500 mS/cm
		Moisture Content	IS 2720 (Part 2): 1972 (RA 2010)	0.5 % to 40.0 %
		Organic Matter	IS 2720 (Part 22): 1972 (RA 2010)	0.5 % to 40.0 %
		Organic Carbon	IS 2720 (Part 22) 1972 (RA 2010) S	0.2 % to 25.0 %
		Total soluble Chloride	SCS/SOP/SOIL/10 Dated 01.09.2017	10 mg/kg to 10000 mg/kg
		Available Phosphorous	SCS/SOP/SOIL/12 Dated 01.09.2017	1 kg/Hectare to 100 kg/Hectare
		Total Soluble Sulphate	IS 2720 (Part 27): 1977 (RA 2006)	0.02 % to 10 %
		Potassium as K	IS 9497:1980 (RA 2005)	0.01 % to 10 %
		Sodium as Na	IS 9497:1980 (RA 2005)	0.01 % to 10 %
		Bulk Density	SCS/SOP/Soil/14 Dated 01.09.2017	1.0 gm/cc to 2.5 gm/cc
		Total Nitrogen	IS 14684:1999 (RA 2005)	0.001 % to 10 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
IV.	**ORES & MINERALS**			
1.	**Lime Stone, Dolomite, Calcite Magnesite & Allied minerals**	LOI	IS 1760 (Part 1) (RA 2006)	35.0 % to 50.0 %
		SiO_2	IS 1760 (Part 2) (RA 2006)	0.2 % to 30.0 %
		Al_2O_3	IS 1760 (Part 3) (RA 2006) Clause 7	0.2 % to 2.0 %
		Fe_2O_3	IS 1760 (Part 3) (RA 2006) Clause 6	0.2 % to 2.0 %
		MgO	IS 1760 (Part 3) (RA 2006) Clause 9	0.5 % to 40.0 %
		CaO	IS 1760 (Part 3) (RA 2006) Clause 8	0.5 % to 55.0 %
2.	**Soapstone, Talc, Pyrophilite**	SiO_2	IS 10429:1982 (RA 2001) Clause-F.4.2.2	5 % to 70.0 %
		Al_2O_3	IS 10429:1982 (RA 2001) Clause-F.5	0.2 % to 10.0 %
		MgO	IS 10429:1982 (RA 2001) Clause-F.7.2.2	0.2 % to 40.0 %
		CaO	IS 10429:1982 (RA 2001) Clause-F.7.2.1	0.2 % to 10.0 %
		LOI	IS 10429:1982 (RA 2001) Clause-F.3	1.0 % to 10.0 %
3.	**Quartz, Quartzite, Silica Sand and allied minerals**	LOI	IS 1917 (Part 1): 1991 (RA 2001)	0.5 % to 5.0 %
		SiO_2	IS 1917 (Part 3): 1992 (RA 2005)	5.0 % to 95.0 %
		Al_2O_3	IS 1917 (Part 5): 1992 (RA 2005)	0.1 % to 5.0 %
4.	**Iron Ore – Haematite, Magnetite, Red Ochre and allied minerals**	SiO_2	IS 1493 (Part 1) (RA 2001) Clause-7.3	1.0 % to 15.0 %
		Al_2O_3	IS 1493:1959 (RA 2001) Clause-10.3	1.0 % to 15 .0 %
		Fe_2O_3	IS 1493:1959 (RA 2001) Clause-8.3	10.0 % to 90.0 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		MgO	IS 1493:1959 (RA 2001) Clause 14.3	0.2 % to 5.0 %
		CaO	IS 1493:1959 (RA 2001) Clause 15.3	0.2 % to 5.0 %
5.	**Feldspar, Black Trap, Basalt**	SiO_2	IS 9749 (RA 2007) Clause F-4.3	1.0 % to 68.0 %
		Al_2O_3	IS 9749 (RA 2007) Clause F-5.3	1.0 % to 40.0 %
		Fe_2O_3	IS 9749 (RA 2007) Clause F-6.3	0.2 % to 10.0 %
		MgO	IS 9749 (RA 2007) Clause F-7.3.1	2.0 % to 10.0 %
		CaO	IS 9749 (RA 2007) Clause F-7.3.1	2.0 % to 10.0 %
		Na_2O	IS 9749 (RA 2007) Clause F-8.5	0.4 % to 10.0 %
		K_2O	IS 9749 (RA 2007) Clause F-8.5	0.4 % to 10.0 %
6.	**Poly Metallic Ore (Zinc, Lead, Copper Ore)**	Pb	SCS/SOP/O & M/01	0.1 % to 15.0 %
		Zn	SCS/SOP/O & M/02	0.1 % to 30.0 %
		Cu	SCS/SOP/O & M/03	0.002 % to 10.0 %
7.	**Clay, China Clay, Plastic Clay, Kaolin Clay, Bentonite, Fuller's Earth and Allied Minerals**	LOI	IS 4589 (Part 1): 2002 (RA 2001) Clause-5.1	2.0 % to 30.0 %
		Al_2O_3	IS 4589(Part 1):2002 (RA 2001) Clause-6.3	15.0 % to 45.0 %
		Fe_2O_3	IS 4589 (Part 1): 2002 (RA 2001) Clause-7.3	0.1 % to 5.0 %
		SiO_2	IS 10429 (RA 2002)	10.0 % to 55.0 %