



Federation for Development of Accreditation Services

CERTIFICATE OF ACCREDITATION **(AS PER ISO/IEC 17025:2017)**

This is to attest that

M/s PERFECT RESEARCHERS PVT. LTD.

506, 5th Floor, NN Mall, Mangalam Palace, Rohini, Sec-3,
New Delhi (Delhi) -110085, India

Testing Laboratory


has demonstrated compliance with ISO/IEC Standard 17025:2017, General requirements for the competence of testing and calibration laboratories and supplementary criteria for testing laboratories.

Certificate Number: TL-106

Issue Date: 22.02.2022

Valid Until: 21.02.2024

The certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard and the relevant requirements of FDAS (scope of accreditation also displayed at www.fdasindia.org).


DEVI SARAN TEWARI
President



SCOPE OF ACCREDITATION

Laboratory Name	M/s Perfact Researchers Pvt. Ltd. 506,5 th Floor, NN Mall, Mangalam Palace, Rohini, Sec-3, New Delhi (Delhi)-110085, India		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TL-106	Page No.:	1 /16
Validity	22.02.2022 to 21.02.2024	Last Amended on

CHEMICAL TESTING

Laboratory based Testing

S.No.	Product//Material of Test	Name of Test Performed	Test Method Specification against which tests are performed	Range of Testing/Limits of Detection
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Group: Air Gas & Atmosphere				
1.	Air	Oxides of Nitrogen	IS: 5182(Part 6): 2006	5 µg/m ³ to 250 µg/m ³
		Oxides of Nitrogen	IS: 5182(Part 6): 2006	5 µg/m ³ to 250 µg/m ³
		Particulate Matter Size less than 2.5 µm (PM2.5)	IS-5182 Part-24:2019	10 µg/m ³ to 500 µg/m ³
		Ammonia (NH ₃)	Method 401, Methods of Air Sampling and Analysis (3rd Edition) by James P Lodge: 2015	20 µg/m ³ to 700 µg/m ³
		Benzene	IS:5182 (Part 11): 2006	1 µg/m ³ to 200 µg/m ³
		Carbon monoxide (CO)	IS: 5182(Part 10) : 1999	0.1 mg/m ³ to 20 mg/m ³
		Chlorine	IS: 5182(Part 19): 1982	10 µg/m ³ to 100 µg/m ³
		Ethyl Benzene	USEPA 0040 / ASTM D6889: 2008	1 µg/m ³ to 20 µg/m ³
		Fluoride	Method 205, Methods of Air Sampling and Analysis (3rd Edition) by James P Lodge: 2015	0.2 µg/m ³ to 20 µg/m ³
		Lead	IS: 5182(Part 22): 2009	0.0003 µg/m ³ to 10 µg/m ³
		Methane	USEPA 0040 / ASTM D6889_03: 2003	0.1 µg/m ³ to 100 µg/m ³
		Nickel	SOP No.008, dated 30.06.2015	0.0002 µg/m ³ to 300 µg/m ³
		Non Methane Hydrocarbon	USEPA 0040 / ASTM D6889_03: 2003	0.1 µg/m ³ to 100 µg/m ³
		Ozone (O ₃)	IS-5182 Part-9:1974 Reaffirmed 2019	10 µg/m ³ to 500 µg/m ³
		Particulate Matter Size less than 10 µm (PM10)	IS: 5182(Part 23) : 2006	5 µg/m ³ to 1000 µg/m ³
		Sulphur dioxide as SO ₂	IS: 5182(Part 2): 2006	3 µg/m ³ to 250 µg/m ³
		Suspended particulate matter	IS: 5182(Part 4)-1999, Reaffirmed: 2010	3 µg/m ³ to 1000 µg/m ³
		Toluene	IS:5182 (Part 11): 2006	1 µg/m ³ to 200 µg/m ³
		Xylene	IS:5182 (Part 11): 2006	1 µg/m ³ to 200 µg/m ³

Jikendra Parmar
Dealing Officer



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2.	Stack	Acid mist	USEPA Method-8: 2017	1 mg/Nm ³ to 1000 mg/Nm ³
		Ammonia(NH ₃)	IS: 11255 Part-6: 2009	0.3 mg/Nm ³ to 100 mg/Nm ³
		Carbon dioxide	IS: 13270: 2009	0.2 % to 20 %
		Carbon Disulphide (CS ₂)	IS: 11255 Part-4: 2006	1 mg/Nm ³ to 500 mg/Nm ³
		Carbon monoxide	IS: 13270: 2009	0.01 % to 10 %
		Hydrogen Sulphide	IS-11255 Part-IV: 2006	1 mg/Nm ³ to 500 mg/Nm ³
		Oxides of Nitrogen	IS: 11255 Part-7: 2005	2 mg/Nm ³ to 750 mg/Nm ³
		Oxygen	IS: 13270: 2009	0.2 % to 20 %
		Particulate matter	IS: 11255 Part-1: 2009	10 mg/Nm ³ to 5000 mg/Nm ³
		Sulphur dioxide	IS: 11255 Part-2: 2005	1 mg/Nm ³ to 1000 mg/Nm ³
		Temperature	IS: 11255 Part-3: 2008	20 °C to 600 °C
		Total Fluoride	USEPA Method 13A: 2017	0.02 mg/Nm ³ to 2 mg/Nm ³
		Velocity	IS: 11255 Part-3: 2008	1 m/s to 30 m/s
		Volume of Flue Gas Discharge (Flow rate)	IS: 11255 Part-3: 2008	10 Nm ³ /h to 75000 Nm ³ /h
3	Ambient Noise	Sound pressure level	IS:9989: 1982	30 dB(A) to 130 dB(A)
4	Source Noise	Source Noise Level	IS:4758:1999	25dB(A)
Group: Water				
1.	Drinking Water/ Surface Water/ Ground Water	Conductivity (Specific Conductance at 25°C)	APHA 2510 B 23rd Edition 2017 (Electrometric)	1 µmhos/cm to 20000 µmhos/cm
		Colour	APHA 2120 B 23rd Edition 2017 (Colorimetric (Platinum Cobalt))	1 Hazen to 50 Hazen
		pH at 25°C	APHA 4500-H+ B 23rd Edition 2017 Electrometric	2 to 12
		Fixed Solid	APHA 2540 E 23rd Edition 2017 Gravimetric Method	1 mg/L to 500 mg/L
		Total Solids	APHA 2540 B Gravimetric Method: 2017	1 mg/L to 20000 mg/L

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		Total Dissolve Solids	APHA 2540 C Gravimetric Method: 2017	1 mg/L to 20000 mg/L
		Total Suspended Solids	APHA 2540 D Gravimetric Method: 2017	1 mg/L to 10000 mg/L
		Turbidity	APHA 2130 B Nephelometric Method: 2017	1 NTU to 400 NTU
		Temperature	APHA 2550 B Thermometric Method: 2017	1 °C to 60 °C
		Alkalinity (CaCO ₃)	APHA 2320 B 23rd Edition 2017 Titrimetric Method (Indicator Method)	2 mg/L to 4000 mg/L
		Odour	APHA 2150 B 23rd Edition 2017 Organoleptic	Qualitative
		Acidity (as CaCO ₃)	APHA 2310 B 23rd Edition 2017 Titrimetric Method	2 mg/L to 4000 mg/L
		Ammonical Nitrogen (NH-3)	APHA 4500 – NH ₃ C 23rd Edition 2017 Titrimetric Method	1 mg/L to 500 mg/L
		Chloride	APHA 4500 – Cl, B Argentometric: 2017	2 mg/L to 10000 mg/L
		Chlorine Residual	APHA 4500 – Cl, B Titrimetric Method: 2017	1 mg/L to 100 mg/L
		Dissolved Oxygen	APHA 4500 – O, C 23rd Edition 2017 Azide Modification	0.2 mg/L to 10 mg/L
		Fluoride	APHA 4500 – F D Colorimetric: 2017	0.1 mg/L to 10 mg/L
		Total Hardness (as CaCO ₃)	APHA 2340 C EDTA Titrimetric method: 2017	2 mg/L to 2000 mg/L
		Total Kjeldahl Nitrogen	APHA 4500 – Norg B Digestion Distillation Titration method (> 5 mg/L) Nesslerization method (< 5 mg/L): 2017	1 mg/L to 1000 mg/L
		Nitrite Nitrogen (as NO ₂ -N)	APHA 4500 NO ₂ B, 23rd Edition 2017 Colorimetric: 2017	0.2 mg/L to 100 mg/L

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		Nitrate Nitrogen	APHA 4500 NO3 B, 23rd Edition 2017 UV Spectrophotometric	0.1 mg/L to 500 mg/L
		Phosphorous	APHA 4500-P D Colorimetric:2017	0.01 mg/L to 100 mg/L
		Sulphates (as SO4)	APHA 4500-So4 E, 23rd Edition 2017	2 mg/L to 2000 mg/L
		Carbon Dioxide	APHA 4500 CO2 C, 23rd Edition 2017	2 mg/L to 20 mg/L
		Boron	APHA 4500-B, C 23rd Edition 2017 Colorimetric	0.1 mg/L to 10 mg/L
		Calcium (Ca)	APHA 3500-Ca B 23rd Edition 2017 Titrimetric	1 mg/L to 1000 mg/L
		Magnesium (Mg)	APHA 3500-Mg B 23rd Edition 2017 By Calculation	By calculation
		Potassium (K)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method	0.02 mg/L to 100 mg/L
		Sodium (Na)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.003 mg/L to 5000 mg/L
		Sodium Absorption Ratio (SAR)	IS11624: 2009	By Calculation
		Biochemical Oxygen Demand (BOD @ 20°C for 5 days)	APHA 5210 B 23rd Edition 2017 Bioassay method (Electrometric method)	1 mg/L to 100 mg/L
		Biochemical Oxygen Demand (BOD @ 27°C for 3 days)	IS 3025 (P-44) Reaffirmed, 2009 Bio Assay method (Titrimetric method): 2009	1 mg/L to 100 mg/L
		Chemical Oxygen Demand	APHA 5220 B&C, 23rd Edition 2017 Open & Closed reflux Method	5 mg/L to 2000 mg/L
		Bromide	APHA 4500 Br-B, 23rd Edition 2017 Spectrophotometric	0.1 mg/L to 10 mg/L



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		Sulphide	APHA 4500 –S2 B23rd Edition 2017 Titrimetric	0.1 mg/L to 100 mg/L
		Total Phenols	APHA 5530D 23rd Edition 2017 Colorimetric Method	0.1 mg/L to 10 mg/L
		Aluminium	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.003 mg/L to 20 mg/L
		BTEX		
		Benzene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Ethyl Benzene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Toluene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Xylene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Trace Elements		
		Aluminum	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.003 mg/L to 20 mg/L
		Arsenic	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.02 mg/L to 100 mg/L
		Bromide	APHA 4500 Br-B, 23rd Edition 2017 Spectrophotometric	0.1 mg/L to 10 mg/L
		Cadmium	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.001 mg/L to 10 mg/L
		Calcium (Ca)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.00002 mg/L to 10 mg/L
		Chromium (Cr) total	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.002 mg/L to 15 mg/L

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		Chromium (Cr) total Hexavalent	APHA 3500–Cr B23rd Edition 2017 Colorimetric	0.02 mg/L to 10 mg/L
		Copper	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.0004 mg/L to 10 mg/L
		Gold	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.004 mg/L to 10 mg/L
		Iron	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.0001 mg/L to 100 mg/L
		Lead	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.01 mg/L to 10 mg/L
		Lithium	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.0003 mg/L to 10 mg/L
		Manganese	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.0004 mg/L to 100 mg/L
		Mercury (Hg)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.001 mg/L to 100 mg/L
		Nickel	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.005 mg/L to 10 mg/L
		Silver	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.001 mg/L to 10 mg/L
		Sulphide	APHA 4500 –S2 B23rd Edition 2017 Titrimetric	0.1 mg/L to 100 mg/L

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		Zinc	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.001 mg/L to 100 mg/L
		Polycyclic Aromatic Hydrocarbons (PAH)		
		Acenaphthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Acenaphthylene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Anthracene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo(a)Pyrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo(ghi)perylene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo[a]anthracene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo[b]fluoranthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo[k]fluoranthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Chrysene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Dibenzo[a,h]anthracene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Fluoranthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Fluorene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Indeno(123-cd)Pyrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Naphthalene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Phenanthrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L

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		Pyrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L
		Tri Halo Methanes (THMs)		
		Bromodichloromethane	ASTM D6520_06 2012, Gas Chromatography	0.1 µg/L to 500 µg/L
		Bromoform	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
		Chloroform	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
		Dibromochloromethane	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
2	Wastewater (Effluent/Sewage)	Colour	APHA 2120 B 23rd Edition 2017 Colorimetric (Platinum Cobalt) Visual Comparison	1 Hazen to 50 Hazen
		pH at 25°C	APHA 4500 –H+ B 23rd Edition 2017 Electrometric	2 to 12
		Acidity (as CaCo3)	APHA 2310 B 23rd Edition Titrimetric method: 2017	2 mg/L to 4000 mg/L
		Alkalinity (CaCo3)	APHA 2320 B 23rd Edition Titrimetric method (Indicator method): 2017	2 mg/L to 4000 mg/L
		Aluminium (Al)	APHA 3500-Al B 23rd Edition 2017 Colorimetric: 2017	0.2 mg/L to 20 mg/L
		Ammonical Nitrogen (NH-3)	APHA 4500 – NH3,C 23rd Edition 2017 Titrimetric method	1 mg/L to 500 mg/L
		Arsenic	APHA 3500 –As 23rd Edition 2017 Spectrophotometric	1 mg/L to 100 mg/L
		Biochemical Oxygen Demand (BOD @ 200C for 5 days	APHA 5210 B23rd Edition 2017 Bio Assay method (Electrometric method)	2 mg/L to 50000 mg/L
		Biochemical Oxygen Demand (BOD @ 270C for 3 days	IS 3025 (P-44) Bio Assay method (Titrimetric method):2003	2 mg/L to 50000 mg/L

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		Boron	APHA 4500-B, C 23rd Edition 2017 Colorimetric	0.001 mg/L to 10.0 mg/L
		Bromide	APHA 4500 Br-B, 23rd Edition 2017 Spectrophotometric	0.1 mg/L to 10 mg/L
		Cadmium	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.025 mg/L to 250 mg/L
		Calcium	APHA 3500 Ca B 23rd Edition 2017 EDTA Titrimetric method	1 mg/L to 1000 mg/L
		Carbon Dioxide	APHA 4500 CO2 C 23rd Edition 2017 By Calculation	2 mg/L to 20 mg/L
		Chemical Oxygen Demand	APHA 5220, B, C 23rd Edition 2017 Open & Closed reflux method	5 mg/L to 100000 mg/L
		Chloride	APHA 4500 Cl, B 23rd Edition 2017 Argentometric method	2 mg/L to 10000 mg/L
		Chlorine Residual	APHA 4500 Cl, B 23rd Edition 2017 Titrimetric Method	0.1 mg/L to 100 mg/L
		Chromium (Cr) total	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.05 mg/L to 400 mg/L
		Chromium (Cr) total Hexavalent	APHA 3500-Cr B 23rd Edition 2017 Colorimetric	0.02 mg/L to 10 mg/L
		Conductivity (Specific Conductance at 250C)	APHA 2510 B 23rd Edition 2017 Electrometric	1 µmhos/cm to 200000 µmhos/cm
		Copper	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.01 mg/L to 1000 mg/L
		Dissolved Oxygen	APHA 4500 O, C 23rd Edition 2017 Azide Modification	0.1 mg/L to 10 mg/L
		Fixed Solid	APHA 2540 E 23rd Edition 2017 Gravimetric method	1 mg/L to 5000 mg/L

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		Fluoride	APHA 4500-F D 23rd Edition 2017 Colorimetric method	0.1 mg/L to 10 mg/L
		Gold	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.1 mg/L to 100 mg/L
		Iodide	APHA 4500 I, B 23rd Edition 2017 Colorimetric	0.01 mg/L to 5 mg/L
		Iron	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.05 mg/L to 1000 mg/L
		Lead	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.25 mg/L to 1000 mg/L
		Lithium	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.015 mg/L to 500 mg/L
		Magnesium (Mg)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.0001 mg/L to 1000 mg/L
		Manganese	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.01 mg/L to 1000 mg/L
		Nickel	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.1 mg/L to 1000 mg/L
		Nitrate Nitrogen	APHA 4500 NO3 B 23rd Edition 2017 UV Spectrophotometric	0.1 mg/L to 500 mg/L
		Nitrite Nitrogen (as NO ₂ -N)	APHA 4500 NO2 B 23rd Edition 2017 Colorimetric	0.1 mg/L to 100 mg/L
		Odour	APHA 2150 B 23rd Edition 2017 Organoleptic	Qualitative: Objectionable/ Unobjectionable

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		Oil and Grease	APHA 5520 B23rd Edition 2012 Liquid –liquid partition Gravimetric method	0.1 mg/L to 2000 mg/L
		Phosphorous	APHA 4500-P D23rd Edition 2017 Colorimetric	0.01 mg/L to 100 mg/L
		Potassium (K)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.5 mg/L to 1000 mg/L
		Settable Solids	APHA 2540 F 23rd Edition 2017 Gravimetric method	1 mg/L to 400 mg/L
		Silver	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.1 mg/L to 100 mg/L
		Sludge Volume Index	APHA 2710 D 23rd Edition 2017 Gravimetric method	2 ml/g to 100 ml/g
		Sodium (Na)	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.1 mg/L to 5000 mg/L
		Sodium Absorption Ratio (SAR)	IS11624-1986 Reaffirmed, 2009 By Calculation	By calculation
		Sulphates (as SO ₄)	APHA 4500 SO ₄ E 23rd Edition 2017 Turbidimetric	2 mg/L to 2000 mg/L
		Sulphide	APHA 4500 –S ₂ B, F 23rd Edition 2017 Titrimetric method	0.1 mg/L to 100 mg/L
		Temperature	APHA 2550 B 23rd Edition 2017 Thermometric method	1 °C to 60 °C
		Total dissolved Solids	APHA 2540 C 23rd Edition 2017 Gravimetric method	1 mg/L to 200000 mg/L
		Total Hardness (as CaCO ₃)	APHA 2340 C 23rd Edition 2017 EDTA Titrimetric method	2 mg/L to 20000 mg/L
		Total Kjeldahl Nitrogen	APHA 4500 NOrg B 23rd Edition 2017 Digestion Distillation Titration method (> 5 mg/L) Nesslerization method (< 5mg/L)	1 mg/L to 1000 mg/L



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CHEMICAL TESTING

Laboratory based Testing

S.No.	Product//Material of Test	Name of Test Performed	Test Method Specification against which tests are performed	Range of Testing/Limits of Detection
		Total Phenols	APHA 5530D 23rd Edition 2017 Colorimetric method	0.1 mg/L to 10 mg/L
		Total Solids	APHA 2540 B 23rd Edition 2017 Gravimetric method	1 mg/L to 200000 mg/L
		Total Suspended Solids	APHA 2540 D 23rd Edition 2017 Gravimetric method	1 mg/L to 100000 mg/L
		Turbidity	APHA 2130 B 23rd Edition 2017 Nephelometric method	1 NTU to 400 NTU
		Volatile Solids	APHA 2540 E 23rd Edition 2017 Gravimetric method	1 mg/L to 10000 mg/L
		Zinc	APHA 3120 B 23rd Edition 2017 Inductively Coupled Plasma (ICP) Method.	0.025 mg/L to 1000 mg/L
		Polycyclic Aromatic Hydrocarbons (PAH)		
		Acenaphthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Acenaphthylene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Anthracene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo(a)Pyrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo(ghi)perylene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo[a]anthracene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo[b]fluoranthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Benzo[k]fluoranthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Chrysene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Dibenzo[a,h]anthracene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L

Jikendra Parmar
Dealing Officer



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		Fluoranthene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Fluorene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Indeno(123-cd)Pyrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Naphthalene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Phenanthrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		Pyrene	USEPA 8272 Gas Chromatography: 2007	0.5 µg/L to 10000 µg/L
		BTEX		
		Benzene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Ethyl Benzene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Toluene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		Xylene	ASTM D6520_06 2012, Gas Chromatography	0.0001 mg/L to 10 mg/L
		THMs		
		Bromodichloromethane	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
		Bromoform	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
		Chloroform	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
		Dibromochloromethane	ASTM D6520_06 2012 Gas Chromatography	0.1 µg/L to 500 µg/L
Group: Pollution and Environment				
1	Soil / Sediments	Available Chloride (as Cl)	Lab SOP No.010, dated: 30.06.2015 based on (USDA M-13) 1954, Edition by L.A. Richards: 1954	5 mg/kg to 1000 mg/kg

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CHEMICAL TESTING

Laboratory based Testing

S.No.	Product//Material of Test	Name of Test Performed	Test Method Specification against which tests are performed	Range of Testing/Limits of Detection
		Bicarbonate Alkalinity as (CaCO ₃)	Lab SOP no. 008: dated 30.06.2015 based on USDA M61 1954, Edition by LA Richards	2 mg/kg to 1000 mg/kg
		Colour	Munsell chart: 1930	Qualitative
		Gypsum requirement	Lab SOP 009, Dated 30.06.2015 based on Soil Testing in India by Ministry of Agriculture, GOI: 2011	20 mg/kg to 1200 mg/kg
		Nitrate (as NO ₃)	IS 14684:1999 Reaffirmed 2014	5 mg/kg to 500 mg/kg
		Organic Matter	IS: 2720 (Part 22): 1972	0.01 % to 10 %
		Phosphorus (available)	Lab SOP No. 002 Dated 30.06.2015 based on USDA M 61, 1954, edition by LA Richards: 1954	5 mg/kg to 500 mg/kg
		Total Kjehldal Nitrogen	APHA 4500-NOrg B : 2017	5 mg/kg to 1000 mg/kg
		Electrical Conductivity	IS 14767: 2000	1 μS/cm to 1000 μS/cm
		Aluminium	Lab SOP No. 019 USEPA 3050B	0.3 mg/kg to 2000 mg/kg
		Available Nitrogen	IS 14684:1999 Reaffirmed 2014	5 mg/kg to 500 mg/kg
		Boron	Lab SOP No. 001 based on Soil Testing in India by Ministry of Agriculture, GOI: 2011	1 mg/kg to 100 mg/kg
		Cadmium	ISO-11466:1995	0.1 mg/kg to 2000 mg/kg
		Calcium Carbonate	IS 2720 Part 23 : 1976	1 % to 40 %
		Cation Exchange capacity (CEC)	ISO- 11260: 2018	0.1 meq/100g to 300 meq/100g
		Lead	ISO-11466: 1995	1 mg/kg to 2000 mg/kg
		Manganese	ISO-11466: 1995	0.04 mg/kg to 5000 mg/kg
		pH	ISO-10390: 2005	1 to 12
		Phosphate (Total)	IS-10158: 2009	5 mg/kg to 1000 mg/kg
		Potash Available	Lab SOP No. 019 Dated 30.06.2015 based on USEPA 3050B: 2015	1 mg/kg to 500 mg/kg



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CHEMICAL TESTING

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S.No.	Product//Material of Test	Name of Test Performed	Test Method Specification against which tests are performed	Range of Testing/Limits of Detection
		Sulphur (as S)+	Lab SOP No. 012, dated: 30.06.2015 based on Soil Testing in India by Ministry of Agriculture, GOI: 2015	1 mg/kg to 200 mg/kg
		Total Soluble Solids	IS – 2720 Part 21: 1997	1 % to 60 %
		Total Soluble Sulphate (as SO ₄)	IS:2720 Part – 27 : 1977	0.5 mg/kg to 1000 mg/kg
		Potassium as K	ISO : 11260: 2018	3.2 mg/kg to 5000 mg/kg
		Grain Size Analysis (Texture)	IS : 2720 PART 4: 2015	2 % to 100 %
		Clay	IS 2720 PART-4: 2015	2 % to 90 %
		Sand	IS : 2720 PART -4: 2015	2 % to 95 %
		Silt	IS 2720 PART- 4: 2015	2 % to 95 %
		Sodium as Na	ISO : 11260: 2018	0.5 mg/kg to 5000 mg/kg
		Porosity	USDA M 40, 1954, edition by LA Richards: 1954	1 % to 60 %
		Moisture	IS 2720 PART -2: 2015	1 % to 50 %
		Magnesium as Mg	ISO : 11260: 2018	0.02 mg/kg to 5000 mg/kg
		Calcium as Ca	ISO : 11260: 2018	0.02 mg/kg to 5000 mg/kg
		Bulk Density	ISO : 11272: 1988	0.1 gm/cc to 10 gm/cc
		Zinc	ISO-11466:1995	0.1 mg/kg to 2000 mg/kg



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FLUID FLOW TESTING

Testing at Site

S.No.	Product//Material of Test	Name of Test Performed	Test Method Specification against which tests are performed	Range of Testing/Limits of Detection
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Group: Wind Velocity and Direction				
1.	Wind/Air	Wind Direction	SOP No. PRPL/OP/074 based on Instructions to observers at the surface observant ories Part I - 1987 of IMD & CPCB Guideline: 1987	0 ^o to 360 ^o (16 directions)
		Ambient temperature	SOP No. – PRPL/OP/073 based on Instructions to observers at the surface observatories Part I - 1987 of IMD & CPCB Guideline : 1987	1 °C to 60 °C
		Relative humidity	SOP No. PRPL/OP/076 based on Instructions to observers at the surface observatories Part I - 1987 of IMD & CPCB Guideline: 1987	1 % to 99 %
		Wind speed	SOP No. PRPL/OP/075 based on Instructions to observers at the surface observatories Part I - 1987 of IMD & CPCB Guideline : 1987	0.1 Km/hr to 140 Km/hr

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