

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

IA No. 512/2024

IN

ORIGINAL APPLICATION NO. 693 OF 2023

IN THE MATTER OF:

News Item titled “Pollution Control Boards are the weak link” appearing in Deccan Herald dated 24.10.2023.

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Filed on: 29.12.2025
New Delhi

Filed by

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**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

IA No. 512/2024

IN

ORIGINAL APPLICATION NO. 693/2023

IN THE MATTER OF:-

News Item titled "Pollution Control Boards are the weak link" appearing in Deccan Herald dated 24.10.2023.

**AFFIDAVIT FILING VACANCY STATUS AND LABORATORY
PARAMETRES & DETAILS ON BEHALF OF MEGHALAYA
POLLUTION CONTROL BOARD (MSPCB) IN COMPLIANCE
WITH ORDER DATED 14.10.2025**

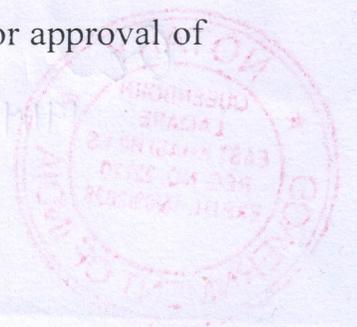
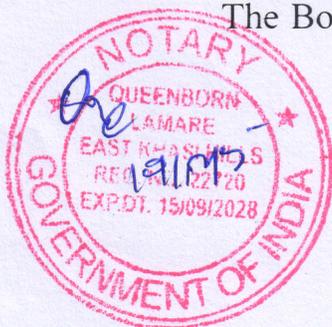
I, **Dr. George Hagi Chyrmang**, s/o (L) D. Kyndiah, aged about 44 years, having office at Lumpyngngad, Shillong, Meghalaya, 793014, do hereby solemnly affirm and declare as under :-

1. That I am presently posted as the Member Secretary of the Meghalaya State Pollution Control Board (MSPCB), and as such in my official capacity, I am well conversant with the facts and records of the case and hence competent and authorized to swear this affidavit on behalf of MSPCB, hereinafter referred to as the 'Board'.



2. That the Board is filing this instant Affidavit in compliance of order dated 14.10.2025 wherein all PCBs of the States/PCCs of UTs were directed to file the status report in terms of the earlier direction and furnish an advance copy thereof. It is stated that this Hon'ble Tribunal in an earlier order dated 28.1.2025 had directed PCB's to file affidavits disclosing the status of the upgradation of the laboratory infrastructure.
3. It is humbly stated that the requisite information was supplied to the Central Pollution Control Board on 01.12.2025.
4. It is further submitted that in compliance with the orders passed by the Hon'ble Tribunal dated 28.01.2025 and 14.10.2025, the Board is placing on record the status of vacancies. In pursuant to Advertisement No. MPCB/ESTT/-29/PT-IV/2024-2025/62 dated 11.02.2025 issued by the Board, a total of 18 posts have been filled, and appointments against the said posts were issued in July, 2025. Notwithstanding the above, out of 155 sanctioned posts, at present there are 56 vacancies in the Board. It is further submitted that the Service Regulations of the Board are presently under process of amendment and the matter has been referred to the State Government.

The Board has also written to the State Government for approval of



the roster for the proposed recruitment of another 22 posts vide letter dated 18.08.2025, and the response in this regard is awaited.

(A copy of the break-up of the vacant posts is marked and annexed as Annexure R/1.)

(A copy of the communication dated 18.8.2025 of the Board is marked and annexed as Annexure R/2.)

5. It is respectfully submitted that the Meghalaya State Pollution Control Board established its Central Environmental Laboratory in the year 1988, which was recognized as the State Water and Air Laboratory by the Government of India in 1989. At present, there is 1 (one) laboratory functioning under the Board. The Board's laboratory was first accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) in the year 2017 in accordance with the standard ISO/IEC 17025:2017, which accreditation has been subsequently renewed, and is presently valid up to the year 2028. Further, the laboratory was granted certification under the Occupational Health and Safety Management System (OHSMS) as per ISO 45001:2018 by the Bureau of Indian Standards (BIS), Kolkata, in the year 2022, which certification has also been renewed and is valid up to the year 2028. The detail information of

MEMBER SECRETARY
Meghalaya State Pollution Control Board
Shillong



the laboratory and summary of parameters and equipment's is provided in table format.

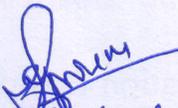
(Copies of the details of the laboratories in the State is marked and annexed as Annexure R/3.)

1. I say that the facts stated in the above paras are true and correct to the best of my knowledge and information.

Date: 19th December

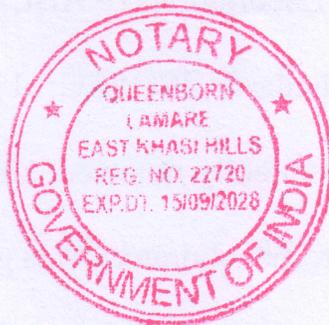
Place: At Shillong.

Identified by:-


(Ms. Z. Sasha L. Dey)
(Advocate)


DEPONENT

MEMBER SECRETARY
Meghalaya State Pollution Control Board
Shillong



Solemnly Affirmed before me this Day on
19/12/23 The deponent is identified
by Ms. Z. Sasha L. Dey
I Certify that the contents of the Affidavit are
read over and Explained to the Deponent
who verified the same before me.


Queenborn Lamare
NOTARY
East Khasi Hills District
Reg. No. 22720

VERIFICATION

I, **Dr. George Hagi Chyrmang**, aged about 44 years, serving as Member Secretary, Meghalaya State Pollution Control Board (MSPCB), having office at Lumpyngngad, Shillong, Meghalaya, 793014, do hereby state that I have submitted this Affidavit on solemn affirmation and oath. I have verified that the facts are true to the best of my personal knowledge and belief. I have not suppressed any material fact known to me and relevant to this matter.

Date: 19th December, 2025.

Place: At Shillong.


DEPONENT

MEMBER SECRETARY
Meghalaya State Pollution Control Board
Shillong



4654 ADVERTISEMENT

ANNEXURE- R/1

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No. MPCB/ESTT-29/PT-IV/2025-2026/

Dated Shillong the

2025

The Meghalaya State Pollution Control Board invites online Applications from genuine citizens of India through the link given at <https://megspcb.gov.in> who are desirous to apply for the under-mentioned posts as per terms and conditions of this advertisement. Candidates should read the instructions carefully before making any entry or selecting any options. Candidates should supply the correct details while filling up the form. Mandatory fields are marked with *(asterisk) sign.

IMPORTANT

- A. It is mandatory for the applicants to have acquired the requisite educational qualification(s) prescribed for the post, as on the last date fixed for submission of applications.
- B. The date on which an applicant is deemed to have acquired the requisite educational qualification shall be the date on which the result of the last examination for such qualification/degrees declared by the Universities/Boards/Institutions.

LIST OF POSTS

Sl. No.	Name of Post	Grade	No. of Vacancy	Breakup of Vacancy				Level of Pay (As per Pay Matrix of the Meghalaya Fifth Pay Commission)	Minimum Educational Qualification & Experience
				UR	Khasi & Jaintia	Garos	OSTs /SCs		
1.	Assistant Environmental Engineer	A	3	0	1	1	1	L-15	Bachelor's Degree in Chemical/Environmental /Civil Engineering from a recognized University/Institution.
2.	Laboratory Assistant	C	4	1	2	1	0	L-6	Bachelor's Degree in Science (Agriculture/ Forestry/Chemistry/Botany/Zoology/Physics/Environmental Science/ Ecology & Environment/ Geology/ Pisciculture/Bio-Chemistry/Micro Biology) from a recognized Institution or equivalent examination. Preference shall be given to Junior Scientific Assistant (under NAMP Scheme) who has served the Board more than 3(three) years and having requisite qualification.
3.	Typist Grade-III	C	1	0	1	0	0	L-4	Class XII or equivalent examination passed with basic knowledge of computer with minimum Speed of 40 w.p.m. in English Typing.
4.	Driver	C	1	1	0	0	0	L-4	Class VIII passed from a recognized School/Institution and should possess a valid Professional Driving License for Light/Heavy Vehicles.
5.	Sample Collector	D	4	0	2	2	0	L-1	Class VIII passed from a recognized School. Preference shall be given to Field Assistant (under NAMP Scheme) who has served the Board more than 3 (three) years and having requisite qualification.
6.	Laboratory Attendant	D	2	0	1	1	0	L-1	Class VIII passed from a recognized School. Preference shall be given to scientific project staff of the Board who has served more than 3 (three) years and having requisite qualification.
7.	Peon	D	8	1	3	3	1	L-1	Class VIII passed from a recognized School. Preference shall be given to project staff of the Board who has served more than 3(three) years and having requisite qualification.

E:

1. The Selection Committee has the right to alter number of post/qualification, etc. as deemed fit and proper as per the requirement of the Board.
2. The candidates should be able to speak English or other associate official languages of the State.
3. Candidates can apply for the said post w.e.f till 12:00 P.M of
4. Candidates who want to apply are required to register themselves with the **Online Recruitment Application System, Government of Meghalaya**, through the link given at the website <https://megspcb.gov.in> using valid email IDs. Registered candidates can apply directly by logging into their respective account using their registered email IDs.
5. Eligible candidates who are appearing for written examination in various posts are instructed to refer to the syllabus prepared for respective posts from the above website.
6. Applicants will pay the fee of Rs..... (Rupees) **only (Half rate for STs/SCs who are permanent residents of the state of Meghalaya)** for each post, using one of the following modes of payment available with the online application:
 - Internet Banking
 - Credit card/Debit Cards of major nationalized banks
 - UPI
7. The candidates may have to pay additional Bank Charges, which may be applicable depending on the mode of payment.
8. Fees are non-refundable. Candidates are advised to go through the instructions carefully before making online


MEMBER SECRETARY-CUM-MEMBER CONVENER
Selection Committee
Meghalaya State Pollution Control Board
Shillong

4656 ANNEXURE- R/2
Meghalaya State Pollution Control Board

Forests & Environment Department, Government of Meghalaya

'ARDEN' Lumpynggad, Shillong - 793014

Website : <http://megspcb.gov.in>

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No. MPCB/GEN-368/2022/ 41

Dated Shillong the 18th August 2025

To:

The Joint Secretary to the Government of Meghalaya
Forests & Environment Department
Meghalaya, Shillong

Sub: Approval of break-up of vacancies for the proposed recruitment

Sir,

With reference to the above, the Meghalaya State Pollution Control Board is proposing to conduct recruitment for various posts in the coming months. In this regard, kindly move the Personnel & Administrative Reform (B) Department for approval of the breakup of vacancies as indicated in the enclosed draft Recruitment Notice. Further, copies of approved roster for respective posts are enclosed herewith for reference.

Further, the competent authority may be requested to that the Meghalaya State Pollution Control Board may be authorised as approving authority for roster within the Board for the purpose of Ease of Doing Business (EODB).

This is for your kind information and necessary action.

Encl: As stated

Yours Faithfully

[DR.G.H. CHYRMANG, MFS]

MEMBER SECRETARY

Meghalaya State Pollution Control Board
Shillong

o/c

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: Meghalaya State Pollution Control Board

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		

4658

2	Chloride	Yes		
3	Cyanide	No	No	Outsourced
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		
15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	Yes		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		

14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	Yes		
18	Zinc (Zn)	Yes		
19	Selenium (Se)	Yes		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C ₆ H ₅ OH	No	No	Outsourced
5	Benzopyrene	No	No	Outsourced
6 Pesticides				
6.a Organochlorine Pesticides (OCPs) Tests				
i	Aldrin	No	36 Months	Specification Finalized
ii	Alpha Endosulphan	No	36 Months	Specification Finalized
iii	p,p'-DDT	No	36 Months	Specification Finalized
iv	Alpha-HCH	No	36 Months	Specification Finalized
v	Beta HCH	No	36 Months	Specification Finalized
vi	Beta Endosulphan	No	36 Months	Specification Finalized
vii	Gama-HCH	No	36 Months	Specification Finalized
viii	o,p'-DDT	No	36 Months	Specification Finalized
ix	p,p'-DDE	No	36 Months	Specification Finalized
6.b Organophosphorus Pesticides (OPPs) Tests				
i	Malathion	No	36 Months	Specification Finalized
ii	Methyl parathion	No	36 Months	Specification Finalized
iii	Chlorpyrifos	No	36 Months	Specification Finalized
iv	Dimethoate	No	36 Months	Specification Finalized

v	Dieldrin	No	36 Months	Specification Finalized
vi	Ethion	No	36 Months	Specification Finalized
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	No	No	Outsourced
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	Yes		
2	Ignitability (Flash Point)	Yes		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	Yes		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	Yes		

C. Sample Matrix / Group of Analytes: Air

(a) Ambient Air

1	Nitrogen dioxide as NO ₂	Yes		
2	Sulphur dioxide (SO ₂)	Yes		
3	Particulate matter (PM ₁₀)	Yes		
4	Particulate matter (PM _{2.5})	Yes		
5	Carbon Monoxide	Yes		
6	Ozone	Yes		
7	Benzene	No	No	Outsourced
8	Ammonia	No	No	Outsourced
9	Metals in Particulate Matter, Pb	Yes		
10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No	No	Outsourced

(b) Stack Gas / Stationary Source Emission

1	Particulate Matter	Yes		
2	Sulphur Dioxide	Yes		
3	Carbon Dioxide	Yes		
4	Carbon Monoxide (NDIR based Method)	Yes		
5	Temperature	Yes		
6	Moisture	Yes		
7	Oxygen	Yes		
8	Oxides of Nitrogen	Yes		
9	Halides (HCL/HF)	No	No	Outsourced

(c) Noise Level

1	Ambient Noise level measurement (20 to 140 dB)	Yes		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	Yes		

(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No	No	Outsourced

Specific remarks, if any:

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
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A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes

a) Mandatory Requirements

1	Portable / Pen type pH meter / pH strip	Yes		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	Yes		
3	Electrical Conductivity meter pen type	Yes		
4	Flow meter / Physical flow measuring	Yes		
5	GPS / Mobile with GPS app	Yes		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	Yes		
7	Thermometer	Yes		
8	Stainless steel bucket with nylon rope and mug	Yes		
9	Ground water level measuring device	Yes		
10	Scoop / shovel	Yes		

11	Auger / core sampler	4663	Yes		
b) Optional Requirements					
1	Bottom Sampler / Depth sampler		No	36 Months	Specification Finalized
2	Chloroscope for residual chlorine		No	36 Months	Specification Finalized
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)		No	36 Months	Specification Finalized
4	Ekman Dredge		No	36 Months	Specification Finalized
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring					
a) Mandatory Requirements					
1	Fine dust samplers PM2.5 (*4 Nos)		Yes		
2	Respirable Dust Sampler PM 10 (* 4 Nos)		Yes		
3	High Volume Sampler (SPM) (4 Nos)		Yes		
4	Handy Sampler with set of glass impingers (*2 Nos)		Yes		
5	Low Volume Sampler (LVS)		Yes		
6	Tedler bags different sizes		No	36 Months	Specification Finalized
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.		Yes		
8	Nitrogen Cylinder portable		Yes		
9	Activated Charcoal tubes/ Tenex		Yes		
10	Barometer (Digital)		Yes		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers		Yes		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly		Yes		
13	Monoblock type, rotary design vacuum pump		Yes		
14	Orsat Apparatus		Yes		
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity		Yes		
16	Stainless steel heated Sampling Probes with thimble holders short and long		Yes		

17	Flue Gas analyzer	Yes		
18	Thermometer/ Thermocouple	Yes		
19	Calibrator for Noise Meters	Yes		
20	Digital Sound level (Noise) Metres	Yes		
21	Portable TOC Analyzer for emission monitoring.	No	No	Outsourced
22	Polyurethane Foam PUF Sampler	No	No	Outsourced
b) Optional Requirements				
1	Anemometer	Yes		
2	Weather Monitoring system	Yes		
3	Wind speed/wind direction monitor	Yes		
4	Continuous Ambient Air Monitoring System, Fixed	Yes		
5	Continuous PM10 Analyzer	Yes		
6	Continuous Ambient Air Monitoring System, Mobile	No	No	Outsourced
7	Continuous PM2.5 analyzer	Yes		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	Yes		
9	Ambient Ozone Analyzer	Yes		
10	Ambient BTEX Analyzer	Yes		
11	Multipoint Gas Calibration system	Yes		
12	Ambient Sulphur Dioxide analyzer	Yes		
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	Yes		
14	Total Hydrocarbon analyzer	Yes		
15	Ambient Ammonia analyzer	Yes		
16	Zero Gas Generator	No	No	Outsourced
17	Synthetic Air Cylinder	No	No	Outsourced
18	Calibration Gas Cylinders, SO2, NO, CO, NH3, Benzene and Toluene One each with stainless steel Regulators	No	No	Outsourced
19	Continuous emission monitoring equipment	Yes		
20	19 inch Rack mounting system for air analyzers	Yes		

21	Dry Gas Meter	No	No	Outsourced
22	Diesel Exhaust analyzer	Yes		
23	Exhaust CO/HC analyzer with Sampling Probe	Yes		
24	Automated Noise Monitoring System	Yes		
25	Integrating Sound level meter	Yes		
26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	Yes		
27	Top loading orifice kit for calibration of HVS	Yes		
28	Permeation tubes (SO ₂ , NO-NO ₂ -NO _x ,NH ₃ , BTX)	Yes		

C. List of Equipment required for processing of Environmental Samples:

a) Mandatory Requirements

1	Accelerated Solvent Extraction (ASE) System	No	36 Months	Specification Finalized
2	Ammonia distillation assembly/TKN Analyzer	Yes		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes		
5	Autoclave (*2 Nos)	Yes		
6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes		
7	Bio safety cabinets	Yes		
8	BOD Incubators (2 nos.)	Yes		
9	Centrifuge	Yes		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes		
11	Cyanide Distillation Assembly (3)	No	No	Outsourced
12	Deep Freezer- Capacity 500 litre	Yes		
13	Laboratory Ball Mill Grinder	No	36 Months	Specification Finalized
14	Laboratory Grinder	No	36 Months	Specification Finalized
15	Laminar Flow bench for Microbiological analysis	Yes		
16	Magnetic Stirrer with heating system (*2 Nos)	Yes		
17	Mechanical Shaker	Yes		

18	Membrane Filtration assembly with vacuum pump (2 nos.)	Yes		
19	Microbial culture refrigerator	Yes		
20	Microwave Digester with 16 vessels/ Hot Plate	Yes		
21	Muffle Furnace (*1 Nos), Range 1200 C	Yes		
22	Phenol distillation assembly (3)	No	No	Outsourced
23	Plate counter, Manual/Automatic	Yes		
24	Digestion Chambers/ Fume hood	Yes		
25	Digital Thermometer & Humidity meter- All lab area	Yes		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes		
27	Filtration Assembly with vacuum pump	Yes		
28	Fluoride Distillation Assembly (3)	No	No	Outsourced
29	Arsenic / Fluoride Glass Distillation assemblies	No	No	Outsourced
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	Yes		
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	Yes		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	Yes		
38	Separating funnel shaker	Yes		
39	Soxhlet Apparatus	Yes		
40	Solid Phase Extraction (SPE) /SPME Extraction system	Yes		
41	Thermometer (Alcohol)	No	36 Months	Specification Finalized
42	Dry & wet bulb Thermometer	Yes		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	Yes		

44	Ultra sonic water bath- Capacity 3 litre			
45	Water Bath with temperature control (*2 Nos)	Yes		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	No	Outsourced
D. Analytical Instruments at Environmental Laboratories				
a) Mandatory Requirements				
1	Atomic Absorption spectrometer (AAS)- Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
2	Binocular Stereo Zoom Microscope	Yes		
3	Bomb Calorimeter	Yes		
4	BTX Analyzer with BTX calibrator	No	No	Outsourced
5	Colony counter	Yes		
6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	Yes		
8	Digital Burettes- 50 ml*2, 100 ml*2	Yes		
9	Dissolved Oxygen Meter (Bench model)	Yes		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	Yes		
12	Gas Chromatograph Mass Spectrometer	No	No	Outsourced
13	High Performance Liquid Chromatograph (HPLC)	No	No	Outsourced
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	Yes		
15	Ion Chromatograph Anion & Cations	Yes		
16	Methane and Non Methane (NMHC) Analyzer	No	No	Outsourced
17	Microscope – 100x	Yes		
18	Microscope Binocular Research	Yes		
19	CO (NDIR based) Analyzer	Yes		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	Yes		

23	Spectrophotometer Visible (Portable)	Yes		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	Yes		
b) Optional Requirements				
1	Automatic Titration Assembly	Yes		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	No	Outsourced
3	EDXRF Analyzer/WDXRF Analyzer	No	No	Outsourced
4	Fourier-transform infrared Spectrometer (FTIR)	No	No	Outsourced
5	Flocculator (Jar testing apparatus)	No	No	Outsourced
6	Toxic Gas Analyzer	No	No	Outsourced
7	Organic Halogen (AOX/TOX) Analyzer	No	No	Outsourced
8	TOC Analyzer	No	No	Outsourced
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	No	Outsourced
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	No	Outsourced
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	60 Months	Specification Finalized
Specific remarks, if any:				

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: Meghalaya State Pollution Control Board

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				

1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No	No	Outsourced
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		
15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	Yes		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		

12	Manganese (Mn)	4671	Yes		
13	Mercury (Hg)		Yes		
14	Nickel (Ni)		Yes		
15	Potassium (K)		Yes		
16	Sodium (Na)		Yes		
17	Vanadium (V)		Yes		
18	Zinc (Zn)		Yes		
19	Selenium (Se)		Yes		
(c) Organics (General) and Trace Organics Tests					
1	Biological Oxygen Demand (BOD)		Yes		
2	Chemical oxygen demand (COD)		Yes		
3	Oil & Grease		Yes		
4	Phenolic Compounds as C ₆ H ₅ OH		No	No	Outsourced
5	Benzopyrene		No	No	Outsourced
6	Pesticides				
6.a	Organochlorine Pesticides (OCPs) Tests				
i	Aldrin		No	36 Months	Specification Finalized
ii	Alpha Endosulphan		No	36 Months	Specification Finalized
iii	p,p'-DDT		No	36 Months	Specification Finalized
iv	Alpha-HCH		No	36 Months	Specification Finalized
v	Beta HCH		No	36 Months	Specification Finalized
vi	Beta Endosulphan		No	36 Months	Specification Finalized
vii	Gama-HCH		No	36 Months	Specification Finalized
viii	o,p'-DDT		No	36 Months	Specification Finalized
ix	p,p'-DDE		No	36 Months	Specification Finalized
6.b	Organophosphorus Pesticides (OPPs) Tests				
i	Malathion		No	36 Months	Specification Finalized

ii	Methyl parathion	No	36 Months	Specification Finalized
iii	Chlorpyrifos	No	36 Months	Specification Finalized
iv	Dimethoate	No	36 Months	Specification Finalized
v	Dieldrin	No	36 Months	Specification Finalized
vi	Ethion	No	36 Months	Specification Finalized

(d) Microbiological Tests

1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		

(e) Toxicological Tests

1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
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B. Sample Matrix / Group of Solid / Solid Waste**(a) Soil / Sediment / Compost Tests**

1	Cation Exchange Capacity (CEC)	No	No	Outsourced
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		

(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests

1	Corrosivity	Yes		
2	Ignitability (Flash Point)	Yes		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		

6	Organic carbon/matter (Chemical Method)	4673	Yes		
7	Calorific Value		Yes		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)		Yes		
C. Sample Matrix / Group of Analytes: Air					
(a) Ambient Air					
1	Nitrogen dioxide as NO2		Yes		
2	Sulphur dioxide (SO2)		Yes		
3	Particulate matter (PM10)		Yes		
4	Particulate matter (PM2.5)		Yes		
5	Carbon Monoxide		Yes		
6	Ozone		Yes		
7	Benzene		No	No	Outsourced
8	Ammonia		No	No	Outsourced
9	Metals in Particulate Matter, Pb		Yes		
10	Metals in Particulate Matter, As		Yes		
11	Metals in Particulate Matter, Ni		Yes		
12	Particulate Benzo-a-Pyrene (BaP)		No	No	Outsourced
(b) Stack Gas / Stationary Source Emission					
1	Particulate Matter		Yes		
2	Sulphur Dioxide		Yes		
3	Carbon Dioxide		Yes		
4	Carbon Monoxide (NDIR based Method)		Yes		
5	Temperature		Yes		
6	Moisture		Yes		
7	Oxygen		Yes		
8	Oxides of Nitrogen		Yes		
9	Halides (HCL/HF)		No	No	Outsourced

(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	Yes		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	Yes		

(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No	No	Outsourced

Specific remarks, if any:

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
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A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes

a) Mandatory Requirements

1	Portable / Pen type pH meter / pH strip	Yes		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	Yes		

3	Electrical Conductivity meter pen type	Yes		
4	Flow meter / Physical flow measuring	Yes		
5	GPS / Mobile with GPS app	Yes		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	Yes		
7	Thermometer	Yes		
8	Stainless steel bucket with nylon rope and mug	Yes		
9	Ground water level measuring device	Yes		
10	Scoop / shovel	Yes		
11	Auger / core sampler	Yes		

b) Optional Requirements

1	Bottom Sampler / Depth sampler	No	36 Months	Specification Finalized
2	Chloroscope for residual chlorine	No	36 Months	Specification Finalized
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	No	36 Months	Specification Finalized
4	Ekman Dredge	No	36 Months	Specification Finalized

B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring
a) Mandatory Requirements

1	Fine dust samplers PM2.5 (*4 Nos)	Yes		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	Yes		
3	High Volume Sampler (SPM) (4 Nos)	Yes		
4	Handy Sampler with set of glass impingers (*2 Nos)	Yes		
5	Low Volume Sampler (LVS)	Yes		
6	Tedler bags different sizes	No	36 Months	Specification Finalized
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	Yes		
8	Nitrogen Cylinder portable	Yes		
9	Activated Charcoal tubes/ Tenex	Yes		
10	Barometer (Digital)	Yes		

11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	Yes		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	Yes		
13	Monoblock type, rotary design vacuum pump	Yes		
14	Orsat Apparatus	Yes		
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	Yes		
16	Stainless steel heated Sampling Probes with thimble holders short and long	Yes		
17	Flue Gas analyzer	Yes		
18	Thermometer/ Thermocouple	Yes		
19	Calibrator for Noise Meters	Yes		
20	Digital Sound level (Noise) Metres	Yes		
21	Portable TOC Analyzer for emission monitoring.	No	No	Outsourced
22	Polyurethane Foam PUF Sampler	No	No	Outsourced
b) Optional Requirements				
1	Anemometer	Yes		
2	Weather Monitoring system	Yes		
3	Wind speed/wind direction monitor	Yes		
4	Continuous Ambient Air Monitoring System, Fixed	Yes		
5	Continuous PM10 Analyzer	Yes		
6	Continuous Ambient Air Monitoring System, Mobile	No	No	Outsourced
7	Continuous PM2.5 analyzer	Yes		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	Yes		
9	Ambient Ozone Analyzer	Yes		
10	Ambient BTEX Analyzer	Yes		
11	Multipoint Gas Calibration system	Yes		
12	Ambient Sulphur Dioxide analyzer	Yes		

13	Ambient Carbon Monoxide & Carbon dioxide analyzer	4677	Yes		
14	Total Hydrocarbon analyzer		Yes		
15	Ambient Ammonia analyzer		Yes		
16	Zero Gas Generator		No	No	Outsourced
17	Synthetic Air Cylinder		No	No	Outsourced
18	Calibration Gas Cylinders, SO ₂ , NO, CO, NH ₃ , Benzene and Toluene One each with stainless steel Regulators		No	No	Outsourced
19	Continuous emission monitoring equipment		Yes		
20	19 inch Rack mounting system for air analyzers		Yes		
21	Dry Gas Meter		No	No	Outsourced
22	Diesel Exhaust analyzer		Yes		
23	Exhaust CO/HC analyzer with Sampling Probe		Yes		
24	Automated Noise Monitoring System		Yes		
25	Integrating Sound level meter		Yes		
26	Continuous PM ₁₀ & PM _{2.5} Monitoring Analyzer TEOM system		Yes		
27	Top loading orifice kit for calibration of HVS		Yes		
28	Permeation tubes (SO ₂ , NO-NO ₂ -NO _x , NH ₃ , BTX)		Yes		

C. List of Equipment required for processing of Environmental Samples:

a) Mandatory Requirements

1	Accelerated Solvent Extraction (ASE) System	No	36 Months	Specification Finalized
2	Ammonia distillation assembly/TKN Analyzer	Yes		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes		
5	Autoclave (*2 Nos)	Yes		
6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes		
7	Bio safety cabinets	Yes		
8	BOD Incubators (2 nos.)	Yes		

9	Centrifuge	Yes		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes		
11	Cyanide Distillation Assembly (3)	No	No	Outsourced
12	Deep Freezer- Capacity 500 litre	Yes		
13	Laboratory Ball Mill Grinder	No	36 Months	Specification Finalized
14	Laboratory Grinder	No	36 Months	Specification Finalized
15	Laminar Flow bench for Microbiological analysis	Yes		
16	Magnetic Stirrer with heating system (*2 Nos)	Yes		
17	Mechanical Shaker	Yes		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	Yes		
19	Microbial culture refrigerator	Yes		
20	Microwave Digester with 16 vessels/ Hot Plate	Yes		
21	Muffle Furnace (*1 Nos), Range 1200 C	Yes		
22	Phenol distillation assembly (3)	No	No	Outsourced
23	Plate counter, Manual/Automatic	Yes		
24	Digestion Chambers/ Fume hood	Yes		
25	Digital Thermometer & Humidity meter- All lab area	Yes		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes		
27	Filtration Assembly with vacuum pump	Yes		
28	Fluoride Distillation Assembly (3)	No	No	Outsourced
29	Arsenic / Fluoride Glass Distillation assemblies	No	No	Outsourced
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	Yes		
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	Yes		

35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	4679		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	Yes		
38	Separating funnel shaker	Yes		
39	Soxhlet Apparatus	Yes		
40	Solid Phase Extraction (SPE) /SPME Extraction system	Yes		
41	Thermometer (Alcohol)	No	36 Months	Specification Finalized
42	Dry & wet bulb Thermometer	Yes		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	Yes		
44	Ultra sonic water bath- Capacity 3 litre	Yes		
45	Water Bath with temperature control (*2 Nos)	Yes		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	No	Outsourced

D. Analytical Instruments at Environmental Laboratories

a) Mandatory Requirements

1	Atomic Absorption spectrometer (AAS)- Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
2	Binocular Stereo Zoom Microscope	Yes		
3	Bomb Calorimeter	Yes		
4	BTX Analyzer with BTX calibrator	No	No	Outsourced
5	Colony counter	Yes		
6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	Yes		
8	Digital Burettes- 50 ml*2, 100 ml*2	Yes		
9	Dissolved Oxygen Meter (Bench model)	Yes		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	Yes		

12	Gas Chromatograph Mass Spectrometer	No	No	Outsourced
13	High Performance Liquid Chromatograph (HPLC)	No	No	Outsourced
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	Yes		
15	Ion Chromatograph Anion & Cations	Yes		
16	Methane and Non Methane (NMHC) Analyzer	No	No	Outsourced
17	Microscope – 100x	Yes		
18	Microscope Binocular Research	Yes		
19	CO (NDIR based) Analyzer	Yes		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	Yes		
23	Spectrophotometer Visible (Portable)	Yes		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	Yes		
b) Optional Requirements				
1	Automatic Titration Assembly	Yes		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	No	Outsourced
3	EDXRF Analyzer/WDXRF Analyzer	No	No	Outsourced
4	Fourier-transform infrared Spectrometer (FTIR)	No	No	Outsourced
5	Flocculator (Jar testing apparatus)	No	No	Outsourced
6	Toxic Gas Analyzer	No	No	Outsourced
7	Organic Halogen (AOX/TOX) Analyzer	No	No	Outsourced
8	TOC Analyzer	No	No	Outsourced
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	No	Outsourced
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	No	Outsourced
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	60 Months	Specification Finalized

4681

Specific remarks, if any:			

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: Meghalaya State Pollution Control Board

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				

1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No	No	Outsourced
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		
15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	Yes		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		

13	Mercury (Hg)	Yes		
14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	Yes		
18	Zinc (Zn)	Yes		
19	Selenium (Se)	Yes		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C ₆ H ₅ OH	No	No	Outsourced
5	Benzopyrene	No	No	Outsourced
6 Pesticides				
6.a Organochlorine Pesticides (OCPs) Tests				
i	Aldrin	No	36 Months	Specification Finalized
ii	Alpha Endosulphan	No	36 Months	Specification Finalized
iii	p,p'-DDT	No	36 Months	Specification Finalized
iv	Alpha-HCH	No	36 Months	Specification Finalized
v	Beta HCH	No	36 Months	Specification Finalized
vi	Beta Endosulphan	No	36 Months	Specification Finalized
vii	Gama-HCH	No	36 Months	Specification Finalized
viii	o,p'-DDT	No	36 Months	Specification Finalized
ix	p,p'-DDE	No	36 Months	Specification Finalized
6.b Organophosphorus Pesticides (OPPs) Tests				
i	Malathion	No	36 Months	Specification Finalized
ii	Methyl parathion	No	36 Months	Specification Finalized
iii	Chlorpyrifos	No	36 Months	Specification Finalized

iv	Dimethoate	No	36 Months	Specification Finalized
v	Dieldrin	No	36 Months	Specification Finalized
vi	Ethion	No	36 Months	Specification Finalized
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	No	No	Outsourced
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	Yes		
2	Ignitability (Flash Point)	Yes		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	Yes		

8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	4686		
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO ₂	Yes		
2	Sulphur dioxide (SO ₂)	Yes		
3	Particulate matter (PM ₁₀)	Yes		
4	Particulate matter (PM _{2.5})	Yes		
5	Carbon Monoxide	Yes		
6	Ozone	Yes		
7	Benzene	No	No	Outsourced
8	Ammonia	No	No	Outsourced
9	Metals in Particulate Matter, Pb	Yes		
10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No	No	Outsourced
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	Yes		
2	Sulphur Dioxide	Yes		
3	Carbon Dioxide	Yes		
4	Carbon Monoxide (NDIR based Method)	Yes		
5	Temperature	Yes		
6	Moisture	Yes		
7	Oxygen	Yes		
8	Oxides of Nitrogen	Yes		
9	Halides (HCL/HF)	No	No	Outsourced
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	Yes		

4687

2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	Yes		
(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No	No	Outsourced
Specific remarks, if any:				
PART II: Details of Laboratory Infrastructure (Instruments and Equipment)				
S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	Yes		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	Yes		
3	Electrical Conductivity meter pen type	Yes		
4	Flow meter / Physical flow measuring	Yes		

5	GPS / Mobile with GPS app	4688		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	Yes		
7	Thermometer	Yes		
8	Stainless steel bucket with nylon rope and mug	Yes		
9	Ground water level measuring device	Yes		
10	Scoop / shovel	Yes		
11	Auger / core sampler	Yes		
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	No	36 Months	Specification Finalized
2	Chloroscope for residual chlorine	No	36 Months	Specification Finalized
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	No	36 Months	Specification Finalized
4	Ekman Dredge	No	36 Months	Specification Finalized
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	Yes		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	Yes		
3	High Volume Sampler (SPM) (4 Nos)	Yes		
4	Handy Sampler with set of glass impingers (*2 Nos)	Yes		
5	Low Volume Sampler (LVS)	Yes		
6	Tedler bags different sizes	No	36 Months	Specification Finalized
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	Yes		
8	Nitrogen Cylinder portable	Yes		
9	Activated Charcoal tubes/ Tenex	Yes		
10	Barometer (Digital)	Yes		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	Yes		

12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	Yes		
13	Monoblock type, rotary design vacuum pump	Yes		
14	Orsat Apparatus	Yes		
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	Yes		
16	Stainless steel heated Sampling Probes with thimble holders short and long	Yes		
17	Flue Gas analyzer	Yes		
18	Thermometer/ Thermocouple	Yes		
19	Calibrator for Noise Meters	Yes		
20	Digital Sound level (Noise) Metres	Yes		
21	Portable TOC Analyzer for emission monitoring.	No	No	Outsourced
22	Polyurethane Foam PUF Sampler	No	No	Outsourced
b) Optional Requirements				
1	Anemometer	Yes		
2	Weather Monitoring system	Yes		
3	Wind speed/wind direction monitor	Yes		
4	Continuous Ambient Air Monitoring System, Fixed	Yes		
5	Continuous PM10 Analyzer	Yes		
6	Continuous Ambient Air Monitoring System, Mobile	No	No	Outsourced
7	Continuous PM2.5 analyzer	Yes		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	Yes		
9	Ambient Ozone Analyzer	Yes		
10	Ambient BTEX Analyzer	Yes		
11	Multipoint Gas Calibration system	Yes		
12	Ambient Sulphur Dioxide analyzer	Yes		
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	Yes		
14	Total Hydrocarbon analyzer	Yes		

15	Ambient Ammonia analyzer	4690	Yes		
16	Zero Gas Generator		No	No	Outsourced
17	Synthetic Air Cylinder		No	No	Outsourced
18	Calibration Gas Cylinders, SO ₂ , NO, CO, NH ₃ , Benzene and Toluene One each with stainless steel Regulators		No	No	Outsourced
19	Continuous emission monitoring equipment		Yes		
20	19 inch Rack mounting system for air analyzers		Yes		
21	Dry Gas Meter		No	No	Outsourced
22	Diesel Exhaust analyzer		Yes		
23	Exhaust CO/HC analyzer with Sampling Probe		Yes		
24	Automated Noise Monitoring System		Yes		
25	Integrating Sound level meter		Yes		
26	Continuous PM ₁₀ & PM _{2.5} Monitoring Analyzer TEOM system		Yes		
27	Top loading orifice kit for calibration of HVS		Yes		
28	Permeation tubes (SO ₂ , NO-NO ₂ -NO _x , NH ₃ , BTX)		Yes		

C. List of Equipment required for processing of Environmental Samples:

a) Mandatory Requirements

1	Accelerated Solvent Extraction (ASE) System	No	36 Months	Specification Finalized
2	Ammonia distillation assembly/TKN Analyzer	Yes		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes		
5	Autoclave (*2 Nos)	Yes		
6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes		
7	Bio safety cabinets	Yes		
8	BOD Incubators (2 nos.)	Yes		
9	Centrifuge	Yes		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes		
11	Cyanide Distillation Assembly (3)	No	No	Outsourced

12	Deep Freezer- Capacity 500 litre	Yes		
13	Laboratory Ball Mill Grinder	No	36 Months	Specification Finalized
14	Laboratory Grinder	No	36 Months	Specification Finalized
15	Laminar Flow bench for Microbiological analysis	Yes		
16	Magnetic Stirrer with heating system (*2 Nos)	Yes		
17	Mechanical Shaker	Yes		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	Yes		
19	Microbial culture refrigerator	Yes		
20	Microwave Digester with 16 vessels/ Hot Plate	Yes		
21	Muffle Furnace (*1 Nos), Range 1200 C	Yes		
22	Phenol distillation assembly (3)	No	No	Outsourced
23	Plate counter, Manual/Automatic	Yes		
24	Digestion Chambers/ Fume hood	Yes		
25	Digital Thermometer & Humidity meter- All lab area	Yes		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes		
27	Filtration Assembly with vacuum pump	Yes		
28	Fluoride Distillation Assembly (3)	No	No	Outsourced
29	Arsenic / Fluoride Glass Distillation assemblies	No	No	Outsourced
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	Yes		
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	Yes		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	Yes		
38	Separating funnel shaker	Yes		

39	Soxhlet Apparatus	4692 Yes		
40	Solid Phase Extraction (SPE) /SPME Extraction system	Yes		
41	Thermometer (Alcohol)	No	36 Months	Specification Finalized
42	Dry & wet bulb Thermometer	Yes		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	Yes		
44	Ultra sonic water bath- Capacity 3 litre	Yes		
45	Water Bath with temperature control (*2 Nos)	Yes		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	No	Outsourced

D. Analytical Instruments at Environmental Laboratories

a) Mandatory Requirements

1	Atomic Absorption spectrometer (AAS)- Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
2	Binocular Stereo Zoom Microscope	Yes		
3	Bomb Calorimeter	Yes		
4	BTX Analyzer with BTX calibrator	No	No	Outsourced
5	Colony counter	Yes		
6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	Yes		
8	Digital Burettes- 50 ml*2, 100 ml*2	Yes		
9	Dissolved Oxygen Meter (Bench model)	Yes		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	Yes		
12	Gas Chromatograph Mass Spectrometer	No	No	Outsourced
13	High Performance Liquid Chromatograph (HPLC)	No	No	Outsourced
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	Yes		
15	Ion Chromatograph Anion & Cations	Yes		
16	Methane and Non Methane (NMHC) Analyzer	No	No	Outsourced

17	Microscope – 100x	Yes		
18	Microscope Binocular Research	Yes		
19	CO (NDIR based) Analyzer	Yes		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	Yes		
23	Spectrophotometer Visible (Portable)	Yes		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	Yes		

b) Optional Requirements

1	Automatic Titration Assembly	Yes		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	No	Outsourced
3	EDXRF Analyzer/WDXRF Analyzer	No	No	Outsourced
4	Fourier-transform infrared Spectrometer (FTIR)	No	No	Outsourced
5	Flocculator (Jar testing apparatus)	No	No	Outsourced
6	Toxic Gas Analyzer	No	No	Outsourced
7	Organic Halogen (AOX/TOX) Analyzer	No	No	Outsourced
8	TOC Analyzer	No	No	Outsourced
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	No	Outsourced
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	No	Outsourced
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	60 Months	Specification Finalized

Specific remarks, if any:

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: Meghalaya State Pollution Control Board

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		

2	Chloride	Yes		
3	Cyanide	No	No	Outsourced
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		
15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	Yes		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		

14	Nickel (Ni)	4696		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	Yes		
18	Zinc (Zn)	Yes		
19	Selenium (Se)	Yes		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C ₆ H ₅ OH	No	No	Outsourced
5	Benzopyrene	No	No	Outsourced
6 Pesticides				
6.a Organochlorine Pesticides (OCPs) Tests				
i	Aldrin	No	36 Months	Specification Finalized
ii	Alpha Endosulphan	No	36 Months	Specification Finalized
iii	p,p'-DDT	No	36 Months	Specification Finalized
iv	Alpha-HCH	No	36 Months	Specification Finalized
v	Beta HCH	No	36 Months	Specification Finalized
vi	Beta Endosulphan	No	36 Months	Specification Finalized
vii	Gama-HCH	No	36 Months	Specification Finalized
viii	o,p'-DDT	No	36 Months	Specification Finalized
ix	p,p'-DDE	No	36 Months	Specification Finalized
6.b Organophosphorus Pesticides (OPPs) Tests				
i	Malathion	No	36 Months	Specification Finalized
ii	Methyl parathion	No	36 Months	Specification Finalized
iii	Chlorpyrifos	No	36 Months	Specification Finalized
iv	Dimethoate	No	36 Months	Specification Finalized

v	Dieldrin	No	36 Months	Specification Finalized
vi	Ethion	No	36 Months	Specification Finalized
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	No	No	Outsourced
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	Yes		
2	Ignitability (Flash Point)	Yes		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	Yes		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	Yes		

C. Sample Matrix / Group of Analytes: Air 4698

(a) Ambient Air

1	Nitrogen dioxide as NO2	Yes		
2	Sulphur dioxide (SO2)	Yes		
3	Particulate matter (PM10)	Yes		
4	Particulate matter (PM2.5)	Yes		
5	Carbon Monoxide	Yes		
6	Ozone	Yes		
7	Benzene	No	No	Outsourced
8	Ammonia	No	No	Outsourced
9	Metals in Particulate Matter, Pb	Yes		
10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No	No	Outsourced

(b) Stack Gas / Stationary Source Emission

1	Particulate Matter	Yes		
2	Sulphur Dioxide	Yes		
3	Carbon Dioxide	Yes		
4	Carbon Monoxide (NDIR based Method)	Yes		
5	Temperature	Yes		
6	Moisture	Yes		
7	Oxygen	Yes		
8	Oxides of Nitrogen	Yes		
9	Halides (HCL/HF)	No	No	Outsourced

(c) Noise Level

1	Ambient Noise level measurement (20 to 140 dB)	Yes		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	Yes		

(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No	No	Outsourced

Specific remarks, if any:

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
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A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes

a) Mandatory Requirements

1	Portable / Pen type pH meter / pH strip	Yes		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	Yes		
3	Electrical Conductivity meter pen type	Yes		
4	Flow meter / Physical flow measuring	Yes		
5	GPS / Mobile with GPS app	Yes		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	Yes		

7	Thermometer	4700	Yes		
8	Stainless steel bucket with nylon rope and mug		Yes		
9	Ground water level measuring device		Yes		
10	Scoop / shovel		Yes		
11	Auger / core sampler		Yes		
b) Optional Requirements					
1	Bottom Sampler / Depth sampler		No	36 Months	Specification Finalized
2	Chloroscope for residual chlorine		No	36 Months	Specification Finalized
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)		No	36 Months	Specification Finalized
4	Ekman Dredge		No	36 Months	Specification Finalized
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring					
a) Mandatory Requirements					
1	Fine dust samplers PM2.5 (*4 Nos)		Yes		
2	Respirable Dust Sampler PM 10 (* 4 Nos)		Yes		
3	High Volume Sampler (SPM) (4 Nos)		Yes		
4	Handy Sampler with set of glass impingers (*2 Nos)		Yes		
5	Low Volume Sampler (LVS)		Yes		
6	Tedler bags different sizes		No	36 Months	Specification Finalized
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.		Yes		
8	Nitrogen Cylinder portable		Yes		
9	Activated Charcoal tubes/ Tenex		Yes		
10	Barometer (Digital)		Yes		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers		Yes		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly		Yes		
13	Monoblock type, rotary design vacuum pump		Yes		

14	Orsat Apparatus	Yes		
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	Yes		
16	Stainless steel heated Sampling Probes with thimble holders short and long	Yes		
17	Flue Gas analyzer	Yes		
18	Thermometer/ Thermocouple	Yes		
19	Calibrator for Noise Meters	Yes		
20	Digital Sound level (Noise) Metres	Yes		
21	Portable TOC Analyzer for emission monitoring.	No	No	Outsourced
22	Polyurethane Foam PUF Sampler	No	No	Outsourced
b) Optional Requirements				
1	Anemometer	Yes		
2	Weather Monitoring system	Yes		
3	Wind speed/wind direction monitor	Yes		
4	Continuous Ambient Air Monitoring System, Fixed	Yes		
5	Continuous PM10 Analyzer	Yes		
6	Continuous Ambient Air Monitoring System, Mobile	No	No	Outsourced
7	Continuous PM2.5 analyzer	Yes		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	Yes		
9	Ambient Ozone Analyzer	Yes		
10	Ambient BTEX Analyzer	Yes		
11	Multipoint Gas Calibration system	Yes		
12	Ambient Sulphur Dioxide analyzer	Yes		
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	Yes		
14	Total Hydrocarbon analyzer	Yes		
15	Ambient Ammonia analyzer	Yes		
16	Zero Gas Generator	No	No	Outsourced
17	Synthetic Air Cylinder	No	No	Outsourced

18	Calibration Gas Cylinders, SO ₂ , NO, CO, NH ₃ , Benzene and Toluene One each with stainless steel Regulators	4702	No	No	Outsourced
19	Continuous emission monitoring equipment		Yes		
20	19 inch Rack mounting system for air analyzers		Yes		
21	Dry Gas Meter		No	No	Outsourced
22	Diesel Exhaust analyzer		Yes		
23	Exhaust CO/HC analyzer with Sampling Probe		Yes		
24	Automated Noise Monitoring System		Yes		
25	Integrating Sound level meter		Yes		
26	Continuous PM ₁₀ & PM _{2.5} Monitoring Analyzer TEOM system		Yes		
27	Top loading orifice kit for calibration of HVS		Yes		
28	Permeation tubes (SO ₂ , NO-NO ₂ -NO _x , NH ₃ , BTX)		Yes		

C. List of Equipment required for processing of Environmental Samples:

a) Mandatory Requirements

1	Accelerated Solvent Extraction (ASE) System	No	36 Months	Specification Finalized
2	Ammonia distillation assembly/TKN Analyzer	Yes		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes		
5	Autoclave (*2 Nos)	Yes		
6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes		
7	Bio safety cabinets	Yes		
8	BOD Incubators (2 nos.)	Yes		
9	Centrifuge	Yes		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes		
11	Cyanide Distillation Assembly (3)	No	No	Outsourced
12	Deep Freezer- Capacity 500 litre	Yes		
13	Laboratory Ball Mill Grinder	No	36 Months	Specification Finalized
14	Laboratory Grinder	No	36 Months	Specification Finalized

15	Laminar Flow bench for Microbiological analysis	Yes		
16	Magnetic Stirrer with heating system (*2 Nos)	Yes		
17	Mechanical Shaker	Yes		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	Yes		
19	Microbial culture refrigerator	Yes		
20	Microwave Digester with 16 vessels/ Hot Plate	Yes		
21	Muffle Furnace (*1 Nos), Range 1200 C	Yes		
22	Phenol distillation assembly (3)	No	No	Outsourced
23	Plate counter, Manual/Automatic	Yes		
24	Digestion Chambers/ Fume hood	Yes		
25	Digital Thermometer & Humidity meter- All lab area	Yes		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes		
27	Filtration Assembly with vacuum pump	Yes		
28	Fluoride Distillation Assembly (3)	No	No	Outsourced
29	Arsenic / Fluoride Glass Distillation assemblies	No	No	Outsourced
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	Yes		
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	Yes		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	Yes		
38	Separating funnel shaker	Yes		
39	Soxhlet Apparatus	Yes		
40	Solid Phase Extraction (SPE) /SPME Extraction system	Yes		
41	Thermometer (Alcohol)	No	36 Months	Specification Finalized

42	Dry & wet bulb Thermometer	4704s		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	Yes		
44	Ultra sonic water bath- Capacity 3 litre	Yes		
45	Water Bath with temperature control (*2 Nos)	Yes		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	No	Outsourced
D. Analytical Instruments at Environmental Laboratories				
a) Mandatory Requirements				
1	Atomic Absorption spectrometer (AAS)- Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
2	Binocular Stereo Zoom Microscope	Yes		
3	Bomb Calorimeter	Yes		
4	BTX Analyzer with BTX calibrator	No	No	Outsourced
5	Colony counter	Yes		
6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	Yes		
8	Digital Burettes- 50 ml*2, 100 ml*2	Yes		
9	Dissolved Oxygen Meter (Bench model)	Yes		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	Yes		
12	Gas Chromatograph Mass Spectrometer	No	No	Outsourced
13	High Performance Liquid Chromatograph (HPLC)	No	No	Outsourced
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	Yes		
15	Ion Chromatograph Anion & Cations	Yes		
16	Methane and Non Methane (NMHC) Analyzer	No	No	Outsourced
17	Microscope – 100x	Yes		
18	Microscope Binocular Research	Yes		
19	CO (NDIR based) Analyzer	Yes		

20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	Yes		
23	Spectrophotometer Visible (Portable)	Yes		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	Yes		
b) Optional Requirements				
1	Automatic Titration Assembly	Yes		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	No	Outsourced
3	EDXRF Analyzer/WDXRF Analyzer	No	No	Outsourced
4	Fourier-transform infrared Spectrometer (FTIR)	No	No	Outsourced
5	Flocculator (Jar testing apparatus)	No	No	Outsourced
6	Toxic Gas Analyzer	No	No	Outsourced
7	Organic Halogen (AOX/TOX) Analyzer	No	No	Outsourced
8	TOC Analyzer	No	No	Outsourced
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	No	Outsourced
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	No	Outsourced
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	60 Months	Specification Finalized
Specific remarks, if any:				

<p>Pollution Control Board, Shillong</p>													
<p>ABNS Scientific Services Private Limited, H-152, Keteki Path, Near Radison Blu, NH-27, Guwahati-781003, y 2 Asam</p>													
<p>Mitra S.K. Private Limited, House No 9, 2nd Floor, Arunachal Path, RG Baruah Road, (Zoo Road, Tiniali) Guwahati-781021, y 3 Assam</p>													
<p>Envirocon, IOCL (AOD) New Market, PO Digboi District: Tinsukia, Assam-786171</p>													
<p>Specific remarks, if any:</p>													

PART V: DETAILS OF LABORATORIES PARTICIPATED ON ANALYTICAL QUALITY CONTROL AND QUALITY ASSURANCE CONDUCTED BY CPCB IN RESPECT OF WATER QUALITY PARAMETERS

S. No.	Name of the Laboratory with address	No. of Parameters in AQC Exercise				Number of Parameters Attempted				% Parameters Successful			
		33rd Exercise	34th Exercise	35th Exercise	36th Exercise	33rd Exercise	34th Exercise	35th Exercise	36th Exercise	33rd Exercise	34th Exercise	35th Exercise	36th Exercise
1	Meghalaya State Pollution Control Board (MSPCB)	9	11	Not Participated	18	9	11	Not Participated	18	44.94	59.09	Not Participated	72.22
2													
3													
4													
5													
6													

Note: 33rd Exercise (Metals) held in 2020-2021,

34th Exercise (General and Physico-Chemical parameters) held in 2021-2022

35th Exercise (Pesticides) held in 2023

36th Exercise (General and Physico-Chemical parameters) held in 2023-2024

Provide details of each Laboratories (Central, Regional/Zonal, District) in separate Row

Specific remarks, if any:

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PART VI: DETAILS OF LABORATORIES PARTICIPATED ON PROFICIENCY TESTING (PT) PERFORMANCE
(Information to be given for last 3 years)

S. No.	Name of Laboratory with address	Year of PT participation	PT Sample Provider (Name and Address)	Number of Parameters in Accreditation Scope	Number of Parameters for which Laboratory participated in PT exercise	Number of Parameter with Satisfactory Results
1		2022	Green Economy Initiative Pvt Ltd	7	5	5
			Enviro Care Pvt Ltd	2	2	2
			Global PT Provider Pvt Ltd	13	13	10
			Global PT Provider Pvt Ltd	12	12	12
		2023	Green Economy Initiative Pvt Ltd	7	5	5
			Global PT Provider Pvt Ltd	13	13	11
			2024	Green Economy	7	5



amit singh <semasingh.office@gmail.com>

Service in O.A. No. 693 of 2023: News Item titled "Pollution Control Boards are the weak link" appearing in Deccan Herald dated 24.10.2023

1 message

amit singh <semasingh.office@gmail.com>

Mon, Dec 29, 2025 at 3:11 PM

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Dear Sir,/Madam

Kindly Find attached scanned copy of Affidavit being e- filed on behalf of Meghalaya State Pollution Control Board. which is being served in advance copy as proof of service.

Thanking you.

Best Regards,
Ms. K. Enatoli Sema Adv.
(Clerk)
Rahul 7503630697

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 **Affidavit- weak link.pdf**

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