



ANNUAL REPORT 2018 - 2019



MEGHALAYA STATE POLLUTION CONTROL BOARD

Forests & Environment Department
Government of Meghalaya
'Arden' Lumpyngngad, Shillong – 793014

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



NORTH EAST GREEN SUMMIT 2018
Shillong, Meghalaya





Meghalaya State Pollution Control Board

ANNUAL REPORT

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FOREWORD

The preparation of the Annual Report of the Meghalaya State Pollution Control Board is mandated under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. The activities of the Board in performing its functions under the said Acts are reflected in the Annual Report for 2018-2019. Over the years, the scope of activities of the Board has increased exponentially with the promulgation of various Rules under the Environment (Protection) Act, 1986 in which the Board has been made the implementing/monitoring Authority.

This Report is a comprehensive document depicting various activities of the Board in matters relating to monitoring and enforcing environmental norms for the abatement, prevention and control of environmental pollution in the State. The Report contains Thirteen Chapters and Four Annexures which reflect the Board's multidimensional role and provides relevant information and a useful database covering various aspects of environmental management activities ranging from monitoring of water quality, air quality, management of different-classified wastes, regulation of industrial/development activities through consent management and legal mechanism, environmental awareness programmes etc.

The compilation of this Report is undeniably a challenging task and I commend the painstaking efforts of the officers and staff who have prepared the Report.


B.K. Lyngwa

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CHAPTER I

INTRODUCTION

The Government of Meghalaya in the Public Health Engineering Department constituted the State Board for Prevention and Control of Water Pollution on the 16th November, 1983 in pursuance to the first environmental legislation of the Country, under the Water (Prevention & Control of Pollution) Act, 1974. Subsequently, the responsibility and enforcement of the Air (Prevention & Control of Pollution) Act, 1981 was entrusted to the Board. The functions of the Board are laid down under Section 17 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 17 of the Air (Prevention and Control of Pollution) Act, 1981. The State Board for Prevention and Control of Water Pollution, Meghalaya was rechristened as Meghalaya State Pollution Control Board in 1988

Besides the enforcement of the Water Act and the Air Act, the Board is also enforcing/ implementing/ monitoring the provisions of the following Acts, Rules and Notifications: -

1) **The Environmental (Protection) Act, 1986 and the Rules framed there under viz.,**

- The Hazardous Waste (Management and Handling) Rules, 1989 as amended in 2016.
- The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.
- The Manufacture, Use, Import, Export & Storage of Hazardous Microorganism or Cells Rules, 1989.
- The Environmental Impact Assessment Notification, 2006 and Amendments.
- The Chemical Accidents (Emergency Planning, Preparedness & Response) Rules, 1996.
- The Bio-Medical Wastes (Management & Handling) Rules, 1998 as amended in 2016
- The Recycled Plastics Manufacture and Usage Rules, 1999 as amended in 2016.
- The Fly Ash Notification, 1999.
- The Noise Pollution (Regulation and Control) Rules, 2000.
- The Ozone Depleting substances (Regulation) Rules, 2000.
- The Municipal Solid Wastes (Management & Handling) Rules, 2000 as amended in 2016.
- The Batteries (Management & Handling) Rules 2001.
- The Construction and Demolition Waste Rules, 2016.
- E-Waste Management Rules, 2016.

2) **The Public Liability Insurance Act, 1991.**

The Board has been functioning with 76 Employees as on 31st March 2019 against a sanctioned strength of 129. The details of Staff Position are given in Annexure-I. The Organization Chart of the Board is given in Annexure-II.

The Headquarter of the Board is located in Shillong. Presently, the Board does not have any Regional or District Offices. The Board is responsible for framing general policies relating to enforcement of the Acts and Rules including implementation thereof. It also looks after the general administration and coordination with other agencies. Besides, it takes up Public Awareness Programmes on matters relating to environment protection and pollution control. The State Laboratory is well equipped and carried out analysis of samples of water, waste water, stack emission, ambient air, bacteriological tests etc.

The following are some of the main activities carried out by the State Board:-

- (i) Inspection of industries and local bodies.
- (ii) Monitoring the quality of water and wastewater.
- (iii) Monitoring the quality of ambient air and stack emissions.
- (iv) Inspection of sites proposed for setting up of industries to verify the suitability of the same from environmental point of view.
- (v) Water bodies monitoring under National Water Quality Monitoring (NWQM) Programme.
- (vi) Ambient air quality monitoring under National Air Monitoring Programme (NAMP).
- (vii) Offering guidance to industries and local bodies on statutory provisions.
- (viii) Issue of “Consents to Establish” and “Consents to Operate” in respects of industries, mining projects, specified developmental projects, municipal bodies and health care facilities etc.
- (ix) Waste Management under Environment (Protection) Act, 1986 and Rules made thereunder:

(a) Hazardous Waste Management:

- Identification of Sources
- Characterisation & Quantification of Wastes
- Enforcement of Provisions of the Rules
- Monitoring of Compliance to Standards
- Submission of Annual Report to Central Pollution Control Board

(b) Bio-Medical Waste Management:

- Identification of Sources
- Characterisation & Quantification of Wastes
- Enforcement of Provisions of the Rules
- Monitoring of Compliance to Standards
- Submission of Annual Report to Central Pollution Control Board

(c) Municipal Solid Waste Management:

- Identification of Sources
- Characterisation & Quantification of Wastes
- Enforcement of provisions of the Rules
- Monitoring of Compliance to Standards
- Submission of Annual Report to Central Pollution Control Board

(d) Batteries Management

- Identification of Sources
- Characterisation & Quantification of Wastes
- Enforcement of Provisions of the Rules
- Monitoring of Compliance to Standards
- Submission of Annual Report to Central Pollution Control Board

(e) Plastic Management

- Identification of Sources
- Characterisation & Quantification of Wastes
- Enforcement of Provisions of the Rules
- Monitoring of Compliance to Standards
- Submission of Annual Report to Central Pollution Control Board

(f) Noise Pollution Management

- Identification of Sources in respect of industries
- Enforcement of Provisions of the Rules in respect of industries
- Monitoring the Compliance of Standards by industries
- Monitoring of ambient noise in Industrial/Commercial/Residential areas

(g) E-Waste Management

- Inventorization of E-Waste generation
- Enforcement of Provisions of the Rules
- Monitoring of Compliance of the Provision of the Rules
- Submission of Annual Report to Central Pollution Control Board

(h) Construction & Demolition Waste Management

- Enforcement and Monitoring of the Provision of the Rules
- Submission of Annual Report to Central Pollution Control Board

CHAPTER II

CONSTITUTION OF THE BOARD & CHANGES THEREIN

The State Government in Forests & Environment Department nominates the Members of the Meghalaya State Pollution Control Board. The Board was constituted under Section 4 of the Water (Prevention & Control of Pollution) Act, 1974 vide Notification No. PHE.161/83/1 dated the 16th November, 1983. The last reconstitution was notified vide Notification No. ENV.6/2008/207 dated the 20th November, 2014.

The Board consists of 17(Seventeen) Members nominated by the State Government as per provisions laid down in Sub-Section (2) of Section 4 of the Water (Prevention and Control of Pollution) Act 1974. Besides the Chairman and the Member Secretary, there are 5(Five) Official Members representing various State Government Departments, 5(Five) Members representing Local Authorities, 2(Two) Members representing the Co-operatives and Corporations owned, managed or controlled by the State Government and 3(Three) Non-Official Members.

The composition of the Board as reconstituted vide Notification No. ENV.6/2008/207 dated the 20th November, 2014 is shown in Table 2.1 below:

Table – 2.1
COMPOSITION OF THE BOARD

1.	Shri C.P. Marak, IFS, Principal Chief Conservator of Forests & HoFF	Chairman
2.	Shri J.H. Nengnong, Senior Environmental Engineer Meghalaya State Pollution Control Board	Member Secretary
OFFICIAL MEMBERS		
3.	Chief Conservator of Forests / Conservator of Forests nominated by the Principal Chief Conservator of Forests & HOFF, Meghalaya	Member
4.	Chief Engineer Public Health Engineering, Meghalaya, Shillong <i>or</i> his nominee	Member
5.	The Director of Industries Meghalaya, Shillong <i>or</i> his nominee	Member
6.	The Director of Health Services (Research, etc), Meghalaya, Shillong <i>or</i> his nominee	Member
7.	The Director, Urban Affairs Meghalaya, Shillong <i>or</i> his nominee	Member

MEMBERS FROM LOCAL AUTHORITIES		
8.	The Chief Executive Member Khasi Hills Autonomous District Council <i>or</i> his nominee	Member
9.	The Chief Executive Member Jaintia Hills Autonomous District Council <i>or</i> his nominee	Member
10.	The Chief Executive Member Garo Hills Autonomous District Council <i>or</i> his nominee	Member
11.	The Chairman Shillong Municipality Board <i>or</i> his nominee	Member
12.	The Chairman Tura Municipality Board <i>or</i> his nominee	Member
REPRESENTATIVES FROM COMPANIES OR CORPORATIONS		
13.	The Managing Director Meghalaya Industrial Development Corporation <i>or</i> his nominee	Member
14.	The Managing Director Mineral Development Corporation, Meghalaya <i>or</i> his nominee	Member
NON-OFFICIAL MEMBERS		
15.	Shri Sangra A. Sangma, Asstt. Professor, Don Bosco College, Tura	Member
16.	Dr. W. Papang Ex-Director, A.H & Vet. Department, Meghalaya, Shillong	Member
17.	Dr. (Mrs) M.P.R. Lyngdoh, (Retired) Principal, Shillong College, Shillong	Member

CHAPTER III

MEETING OF THE BOARD WITH MAJOR DECISIONS

3.1 Major Decisions Taken During The 71st Board Meeting Held On The 24th April, 2018.

3.1.1: Proposal for fixing of annual Consent fees for mining projects

The present system of levying Consent fees was as per Notification No. MPCB/TB-2 (Pt-1)/A/2007-08/190 Dated 17th March, 2008 wherein the fee structure was based on capital investment. It was observed that the applications received for grant of consent, the capital investment and production capacity drastically varies from one application to another, though the mineral and production capacity were the same. Thus fixing the Consent fees based on the declared capital investment may not be appropriate. It was felt necessary to fix the Consent fees based on the production/extraction capacity as per approved mining plan by the respective approving Authority. It was proposed that the following rates be adopted for fixing/calculating the Annual Consent Fees (Consent to Establish and Consent to Operate) payable for any mining activity:

- a) Rs. 0.10 (Ten Paisa) per tonne of mineral (as per approved mining plan) for minor minerals, subject to a minimum fee of Rs. 5000/- (Rupees Five Thousand) only.
- b) Rs. 0.20 (Twenty Paisa) per tonne of mineral (as per approved mining plan) for major minerals, subject to a minimum fee of Rs. 12000/- (Rupees Twelve Thousand) only.

The matter was placed before the Board for consideration and approval.

3.2. Major Decisions Taken During The 72nd Board Meeting Held On The 28th September 2018.

3.2.1: North East Green Summit 2018 to be held from 23rd -26th October, 2018

The Meghalaya State Pollution Control Board along with the Institute of Bioresources and Sustainable Development (IBSD), Imphal (Ministry of Science & Technology), Social Forestry and Environment Wing, Forests and Environment Department, Government of Meghalaya and Vibgyor Media Solutions jointly organized the 3rd Edition Northeast Green Summit 2018 in Shillong from 23rd to 26th October, 2018. Considering the rapid urbanization that was taking place in the cities and towns of the northeastern region and its impact on the corresponding environment as experienced during the last decades, the third edition of the Northeast Green Summit 2018 was focusing on Urban Environment. Environment Ministers of the Northeastern

States, environmentalists, academicians and officials of the Forests & Environment Departments, State Pollution Control Boards were expected to be present/participate in this summit.

The total estimated expenditure for the Summit was projected at Rs.1,21,84,095/- and the contribution of the Board was estimated at Rs.25,00,000/- while the co-organizers also contributed towards the expenditure and sponsorship was also sought from other agencies. It was proposed that the contribution of the Board will be met from the Resources of the Board, for which provision has been made in the current year budget for an amount of Rs. 80 lakhs which was approved in the 71st Meeting of the Board.

After a thorough deliberation, the Board approved the proposal to contribute partially to the expenditure for the Summit amounting to Rs. 25.00 lakhs from the Resources of the Board.

CHAPTER IV

COMMITTEES CONSTITUTED BY THE BOARD & THEIR ACTIVITIES

The following Committees are constituted by the Board with their activities to strengthen the functions of the Board from time to time.

I. THE CONSENT COMMITTEE

- | | | |
|----|--|------------------------|
| 1. | Chairman, Meghalaya State Pollution Control Board, Shillong. | Chairman |
| 2. | Senior Inspector of Boilers & Factories, Inspectorate of Boilers & Factories, Meghalaya, Shillong. | Member |
| 3. | Conservator of Forests, Meghalaya, Shillong. | Member |
| 4. | Deputy Director, Directorate of Commerce and Industries, Meghalaya, Shillong. | Member |
| 5. | Director of Mineral Resources, Meghalaya, Shillong. | Member |
| 6. | Member Secretary, Meghalaya State Pollution Control Board, Shillong. | Member Convener |

TERMS OF REFERENCE:

To examine/scrutinize the applications for Consent and recommend the grant or otherwise of Consent in respect of industries/developmental projects with project costs above Rs.25.00 lakhs.

II. THE PURCHASE COMMITTEE

- | | | |
|----|---|-----------------|
| 1. | Chairman, Meghalaya State Pollution Control Board, Shillong. | Chairman |
| 2. | Director of Commerce and Industries <i>or</i> his nominee. | Member |
| 3. | Chief Engineer P.H.E Deptt. Meghalaya <i>or</i> his nominee | Member |
| 4. | The Director, Regional Sophisticated Instrument Centre
Bijni Complex, N.E.H.U, Shillong. | Member |
| 5. | Senior Scientist, Indian Council of Agricultural Research
(I.C.A.R), Umiam. | Member |
| 6. | Member Secretary, Meghalaya State Pollution Control Board, Shillong. | Convener |

TERMS OF REFERENCE:

To scrutinize the Quotation/Tender documents and make necessary recommendation thereof for purchase of Scientific Instruments/Equipment's.

III. THE SELECTION COMMITTEE FOR GRADE 'A' POSTS

- | | | |
|----|---|------------------------|
| 1. | Principal Secretary/Commissioner & Secretary to the Govt. of Meghalaya, Forests & Environment Department. | Chairman |
| 2. | Chairman, Meghalaya State Pollution Control Board, Shillong. | Member |
| 3. | Deputy Secretary/Under Secretary to the Government of Meghalaya, Forests & Environment Department. | Member |
| 4. | Environmental Engineer, I/C North Eastern Zonal Office Central Pollution Control Board, Shillong. | Member |
| 5. | Member Secretary, Meghalaya State Pollution Control Board, Shillong. | Member Convener |

TERMS OF REFERENCE:

To assess the eligibility of candidates through written examination, interview, practical test etc. for the purpose of direct recruitment to Grade 'A' Posts and to recommend the list of successful candidates in order of merit to the Board for appointment.

IV. THE SELECTION COMMITTEE FOR GRADE 'B', 'C' & 'D' POSTS

- | | | |
|----|--|------------------------|
| 1. | Chairman, Meghalaya State Pollution Control Board, Shillong. | Chairman |
| 2. | Addl. Principal Chief Conservator of Forests/Chief Conservator of Forests (Administration) or his nominee. | Member |
| 3. | Environmental Engineer, I/C North Eastern Zonal Office Central Pollution Control Board, Shillong. | Member |
| 4. | Member Secretary, Meghalaya State Pollution Control Board, Shillong. | Member |
| 5. | Administrative Officer/Establishment Officer Meghalaya State Pollution Control Board, Shillong. | Member Convener |

TERMS OF REFERENCE:

To assess the eligibility of candidates through written examination, interview, practical test etc. for the purpose of direct recruitment to Grade 'B', 'C' & 'D' Posts and to recommend the list of successful candidates in order of merit to the Board for appointment.

V. THE PROMOTION COMMITTEE FOR GRADE 'A' POSTS

- | | | |
|----|--|------------------------|
| 1. | Chairman, Meghalaya State Pollution Control Board, Shillong. | Chairman |
| 2. | Addl. Principal Chief Conservator of Forests/Chief Conservator of Forests (Administration) or his nominee. | Member |
| 3. | Member Secretary,
Meghalaya State Pollution Control Board, Shillong. | Member |
| 4. | Senior Scientist/Scientist 'C'
Meghalaya State Pollution Control Board, Shillong. | Member |
| 5. | Sr. Environmental Engineer/Environmental Engineer
Meghalaya State Pollution Control Board, Shillong. | Member |
| 6. | Administrative Officer/Establishment Officer
Meghalaya State Pollution Control Board, Shillong. | Member Convener |

TERMS OF REFERENCE:

To assess the eligibility of candidates on the basis of seniority-cum-merit and recommend the list of eligible candidates in order of preference to the Board for promotion.

VI. THE PROMOTION COMMITTEE FOR GRADE 'B' & 'C' POSTS

- | | | |
|----|--|------------------------|
| 1. | Chairman, Meghalaya State Pollution Control Board, Shillong. | Chairman |
| 2. | Addl. Principal Chief Conservator of Forests/Chief Conservator of Forests (Administration) or his nominee. | Member |
| 3. | Senior Scientist/Scientist 'C'
Meghalaya State Pollution Control Board, Shillong. | Member |
| 4. | Sr. Environmental Engineer/Environmental Engineer
Meghalaya State Pollution Control Board, Shillong. | Member |
| 5. | Administrative Officer/Establishment Officer
Meghalaya State Pollution Control Board, Shillong | Member Convener |

TERMS OF REFERENCE:

To assess the eligibility of candidates on the basis of seniority-cum-merit and recommend the list of eligible candidates in order of preference to the Board for promotion.

CHAPTER V

AIR QUALITY MONITORING

5.1.0 NATIONAL AIR QUALITY MONITORING

The Meghalaya State Pollution Control Board monitored the Ambient Air Quality at 10 (ten) stations in the State under National Air Monitoring Programme (NAMP) sponsored by Central Pollution Control Board (Fig.5.1.0). The frequency of monitoring was twice a week. Particulate Matter (PM10), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) and Meteorological Parameters viz. wind speed, wind direction, ambient air temperature, humidity, etc. were monitored at these stations and the observations are presented below:-

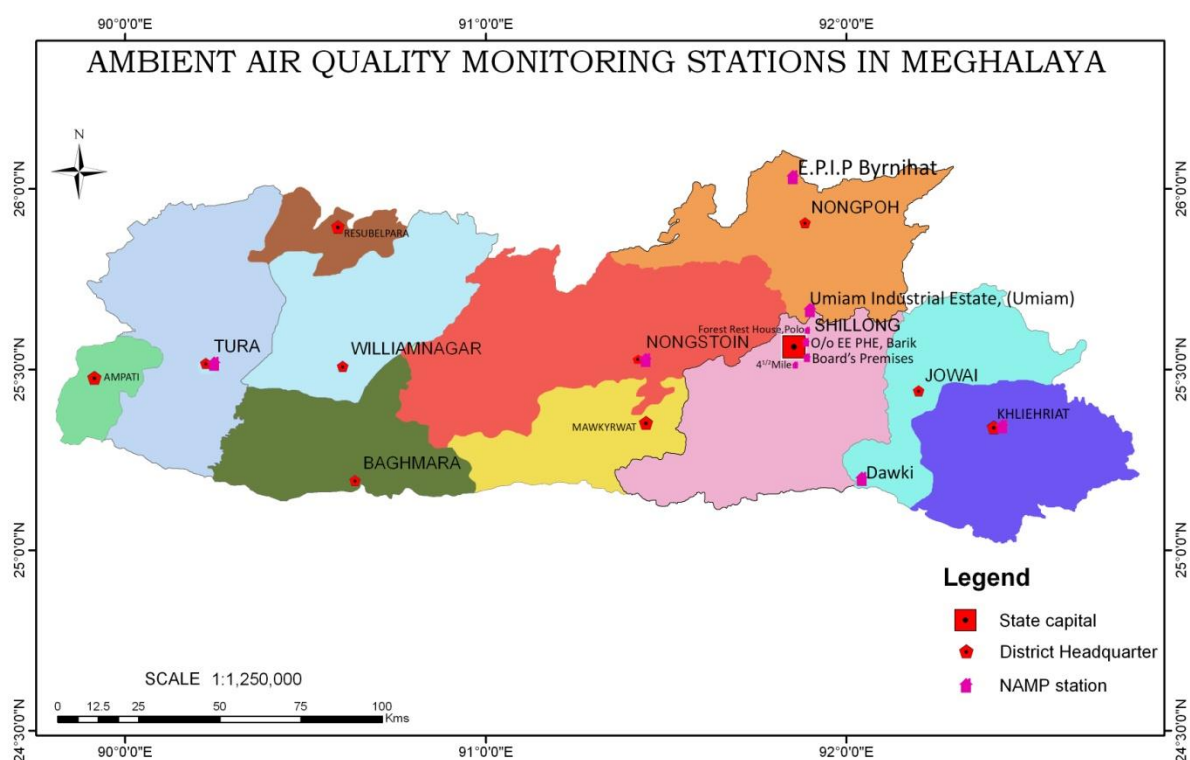


FIG. 5.1.0: LOCATION OF NAMP STATIONS IN THE STATE

5.1.1: Board's Office Premises, Lumpyngngad, Shillong (Station - I):

Ambient air quality monitoring data during 2018 monitored at the Board's Office Premises, Lumpyngngad, Shillong, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) & Particulate Matter (PM10) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period are shown in Table 5.1.1 and depicted in Figure 5.1.1.

Table 5.1.1
Ambient Air Quality data at Board's Office Premises, Lumpyngngad, Shillong, (Stn – I), 2018.

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM10 (µg/m ³)	3	32.7	31.5	30.2	30	30	31.3	30.1	31.2	29.5	33.2	32.4	31.1
PM2.5 (µg/m ³)	14.1	16.4	13.6	11.3	10.8	10.3	10.8	11.3	10.4	8.9	7.9	11.7	11.4
SO ₂ (µg/m ³)	2	2	2	2	2	2	2	2	2	2	2	2	2
NO ₂ (µg/m ³)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5

Permissible Limits: PM10 (µg/m³)-60, PM2.5 (µg/m³)-40, SO₂ (µg/m³)-50, NO₂ (µg/m³)-40

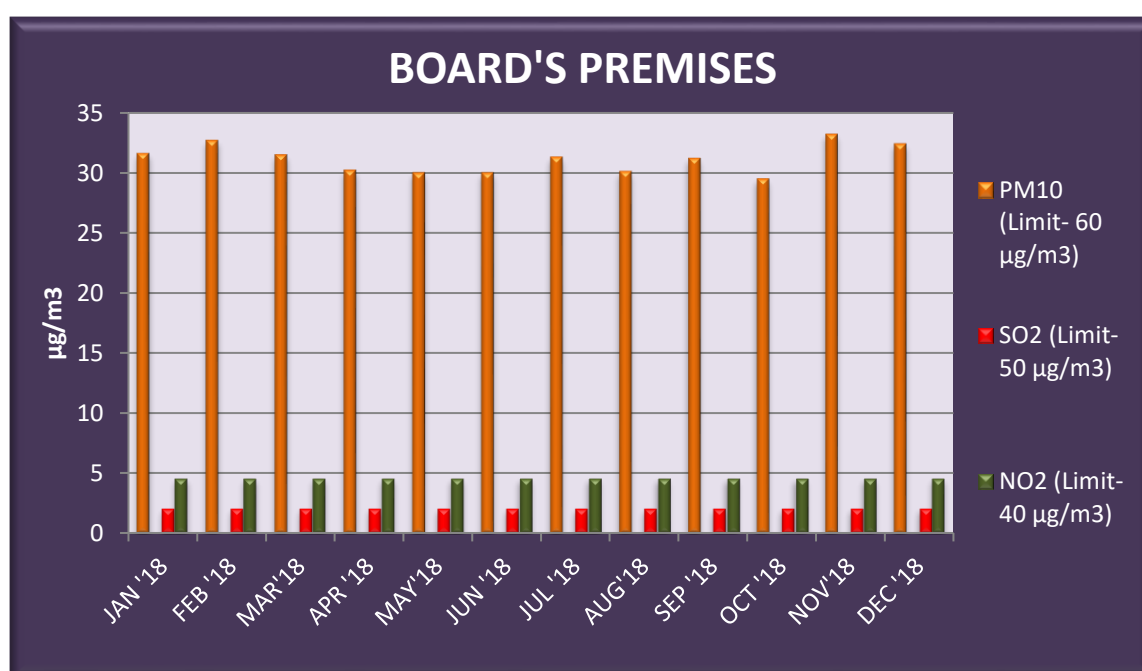


Fig.5.1.1
Monthly average of PM10, SO₂, and NO₂ levels at Board's Premises, Shillong.

5.1.2: O/o EE (PHE), Hills Division, Barik, Shillong. (Station – II):

Ambient air quality monitoring data during 2018 monitored at O/o EE (PHE), Hills Division, Barik, Shillong revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), and Nitrogen Dioxide (NO₂) were within the prescribed standards of National Ambient Air Quality standards. Particulate Matter (PM10) levels were above the National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.2 and depicted in Figure 5.1.2.

Table 5.1.2
Ambient Air Quality data at O/o EE (PHE), Hills Division, Barik, Shillong (Stn – II), 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM10 ($\mu\text{g}/\text{m}^3$)	61.8	61	58	59.6	61.4	60.9	43.3	38.4	38.5	38.7	46.4	45	51.1
SO ₂ ($\mu\text{g}/\text{m}^3$)	2	2	5.8	6.4	6.5	7.5	7	6.7	7.3	6.8	7.8	7.1	6.1
NO ₂ ($\mu\text{g}/\text{m}^3$)	22.8	20.9	15.6	17.3	18.7	20.8	20	18.2	17.5	16.7	18.1	17.4	18.7

Permissible Limits: PM10($\mu\text{g}/\text{m}^3$) – 60, SO₂($\mu\text{g}/\text{m}^3$) – 50, NO₂($\mu\text{g}/\text{m}^3$) – 40

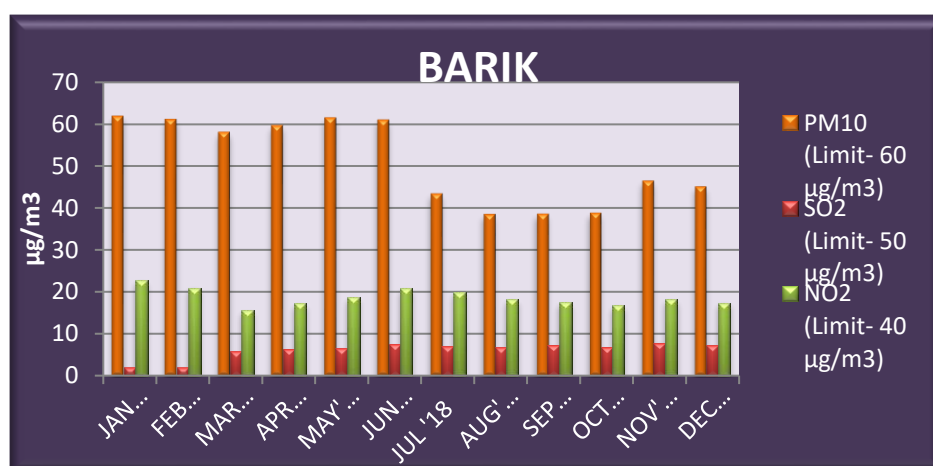


Fig.5.1.2
Monthly average of PM10, SO₂, and NO₂ levels at Barik, Shillong.

5.1.3: Export Promotion Industrial Park (EPIP), Byrnihat, Ri-Bhoi District (Station – III)

Ambient air quality monitoring data during 2018 monitored at EPIP, Byrnihat, Ri-Bhoi District, an industrial area, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), and Nitrogen Dioxide (NO₂) were within the prescribed standards of National Ambient Air Quality standards. Particulate Matter (PM10) levels were above the National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.3 and depicted in Figure 5.1.3.

Table 5.1.3
Ambient Air Quality data at EPIP, Byrnihat, Ri-Bhoi District, (Stn – III), 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM10 ($\mu\text{g}/\text{m}^3$)	206.1	199.2	206.2	193.9	173.6	158.7	141.5	141.8	134.8	134	144.5	151.3	165.5
SO ₂ ($\mu\text{g}/\text{m}^3$)	28.1	25.9	30.1	28.6	28.1	25.7	23.7	24.8	22.4	24.7	25.5	25.1	26.1
NO ₂ ($\mu\text{g}/\text{m}^3$)	13.2	13.1	10.5	13.2	12	11.7	11	11.9	11.9	12.7	12.9	12.8	12.2

Permissible Limits: PM10 ($\mu\text{g}/\text{m}^3$) – 60, SO₂ ($\mu\text{g}/\text{m}^3$) – 50, NO₂ ($\mu\text{g}/\text{m}^3$) – 40

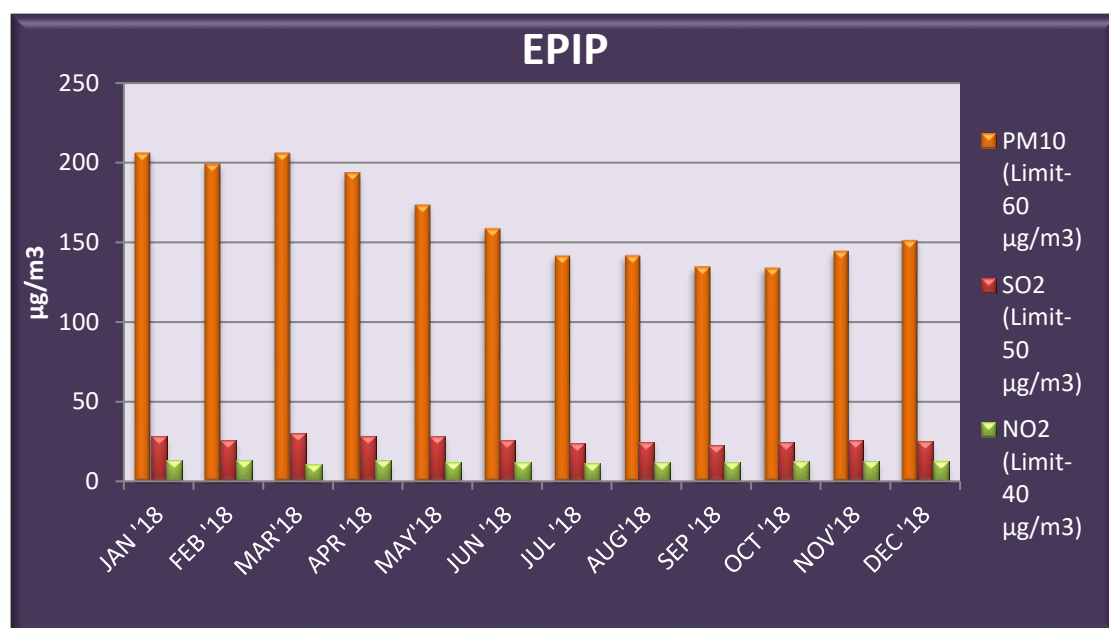


Fig.5.1.3
Monthly average of PM10, SO2, and NO2 levels at EPIP, Byrnihat, Ri-Bhoi District

5.1.4: Dawki, West Jaintia Hills District (Station - IV)

Ambient air quality monitoring data during 2018 monitored at Dawki, West Jaintia Hills District, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) & Particulate Matter (PM₁₀) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.4 and depicted in Figure 5.1.4.

Table 5.1.4
Ambient Air Quality data at Dawki, West Jaintia Hills District, (Stn - IV), 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM ₁₀ (µg/m ³)	25.8	24.9	20.8	24.9	17.5	22.7	23	23.7	23.5	22	24.1	24.3	23.1
SO ₂ (µg/m ³)	2	2	2	2	2	2	2	2	2	4	4	3.9	2
NO ₂ (µg/m ³)	11.9	12.7	10.7	11.4	12.1	12.3	13	12.8	12	11.8	12.7	12.8	12.2

Permissible Limits: PM₁₀ (µg/m³) - 60, SO₂ (µg/m³) - 50, NO₂ (µg/m³) - 40

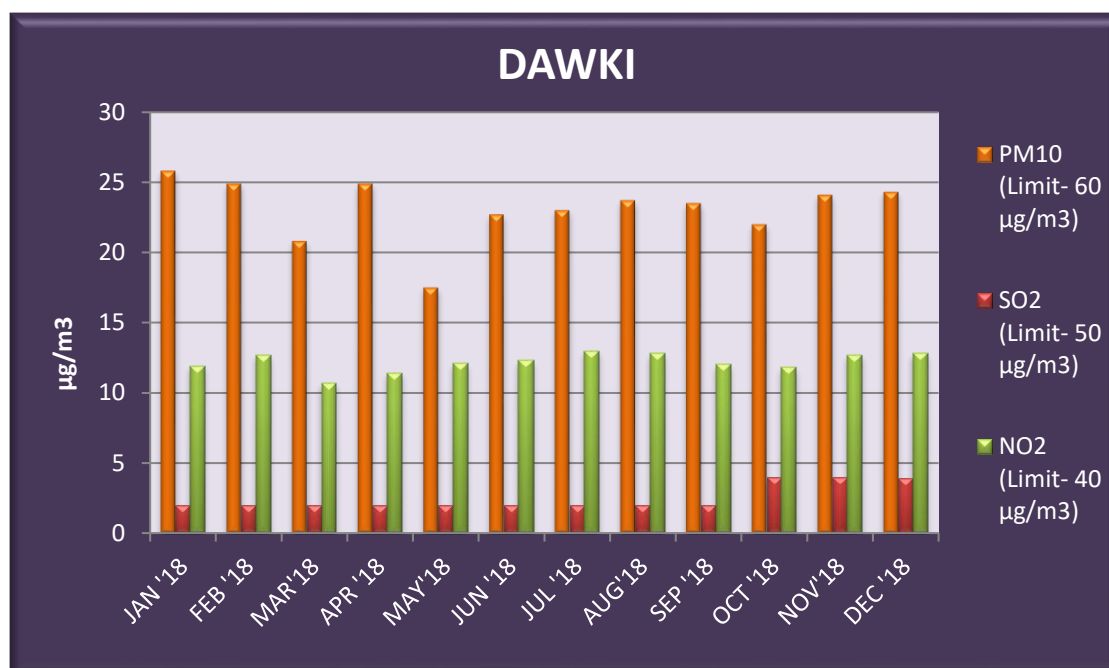


Fig. 5.1.4

Monthly average of PM10, SO₂, and NO₂ levels at Dawki, West Jaintia Hills District.

5.1.5: Tura, West Garo Hills District (Station - V)

Ambient air quality monitoring data during 2018 monitored at Tura, West Garo Hills District, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) & Particulate Matter (PM10) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.5 and depicted in Figure 5.1.5.

Table 5.1.5
Ambient Air Quality data at Tura, West Garo Hills District, (Stn - V), 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM10 (µg/m³)	35.3	36.2	35.3	33.5	29.9	32.1	31.8	31.1	31.8	33.5	33.3	35	33.2
SO ₂ (µg/m³)	2	2	2	2	2	2	2	2	2	2	2	2	2
NO ₂ (µg/m³)	14.3	15.4	13.7	13.7	12.4	13.4	13.1	13.1	13	13.3	13.5	13.8	13.6

Permissible Limits: PM10 (µg/m³) – 60, SO₂ (µg/m³) – 50, NO₂ (µg/m³) – 40

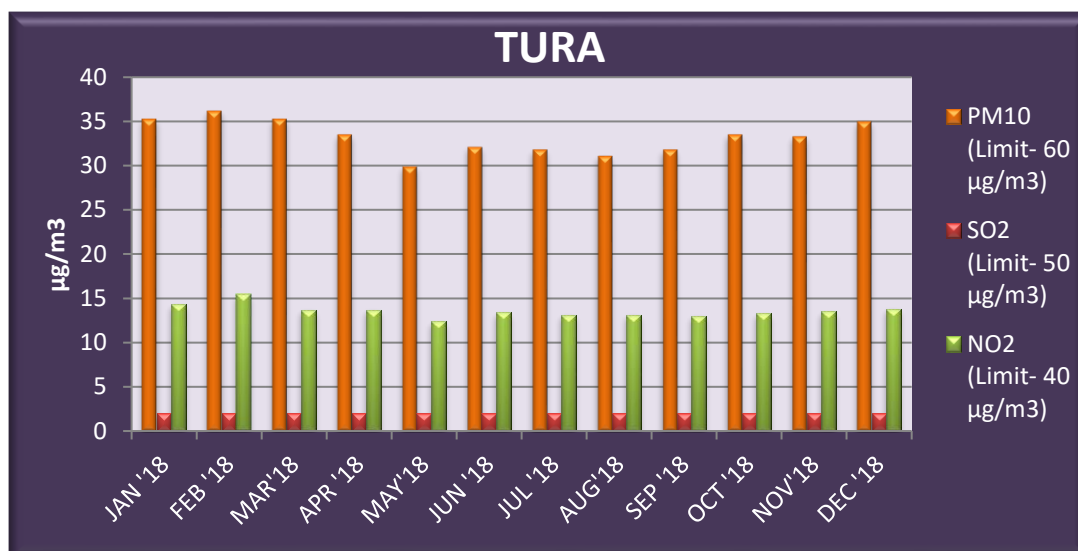


Fig. 5.1.5

Monthly average of PM10, SO2, and NO2 levels at Tura, West Garo Hills District

5.1.6: Khliehriat, Jaintia Hills District, (Station - VI)

Ambient air quality monitoring data during 2018 monitored at Khliehriat, Jaintia Hills District, revealed that the Annual Average concentrations of Particulate Matter (PM10), Sulphur Dioxide (SO2), and Nitrogen Dioxide (NO2) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.6 and depicted in Figure 5.1.6.

Table 5.1.6

Ambient Air Quality data at Khliehriat, East Jaintia Hills District, (Stn-VI), 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM10 (µg/m³)	48.9	45.9	49.1	45.1	46.5	45.2	40.5	33.4	38.9	40.5	44	45.3	43.6
SO ₂ (µg/m³)	2	2	2	2	2	2	2	2	2	2	2	2	2
NO ₂ (µg/m³)	10.5	10.2	9	10	4.5	10.2	9.5	4.5	10.7	11.1	11.5	11.4	9.5

Permissible Limits: PM10 (µg/m³) – 60, SO2 (µg/m³) – 50, NO2 (µg/m³) - 40

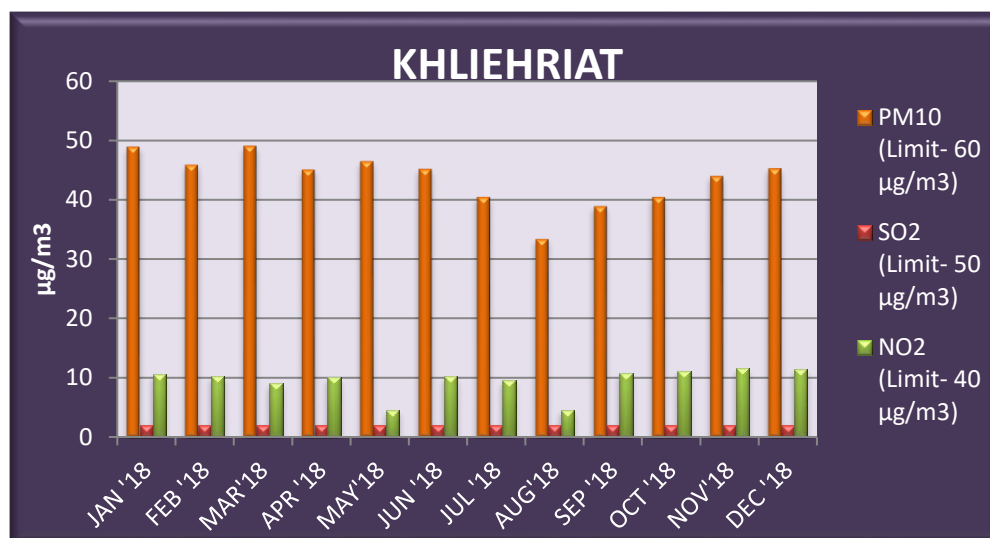


Fig. 5.1.6

Monthly average of PM10, SO2, and NO2 levels at Khliehriat, East Jaintia Hills District

5.1.7: Nongstoin, West Khasi Hills District (Station - VII)

Ambient air quality monitoring data during 2018 monitored at Nongstoin, West Khasi Hills District, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) & Particulate Matter (PM₁₀) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.7 and depicted in Figure 5.1.7.

Table 5.1.7: Ambient Air Quality data at Nongstoin, West Khasi Hills District. (Stn-VII), 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM10 (µg/m³)	27.1	31	33.7	30	29.6	31.2	27.4	32.7	29.6	31.9	24.1	32.8	30.1
SO ₂ (µg/m³)	2	2	2	2	2	2	2	2	2	2	2	2	2
NO ₂ (µg/m³)	11	10.8	9.7	10.5	9.5	10.6	10.2	9.9	10	10.6	10.7	10.4	10.3

Permissible Limits: PM10 (µg/m³) - 60, SO₂ (µg/m³) - 50, NO₂ (µg/m³) - 40

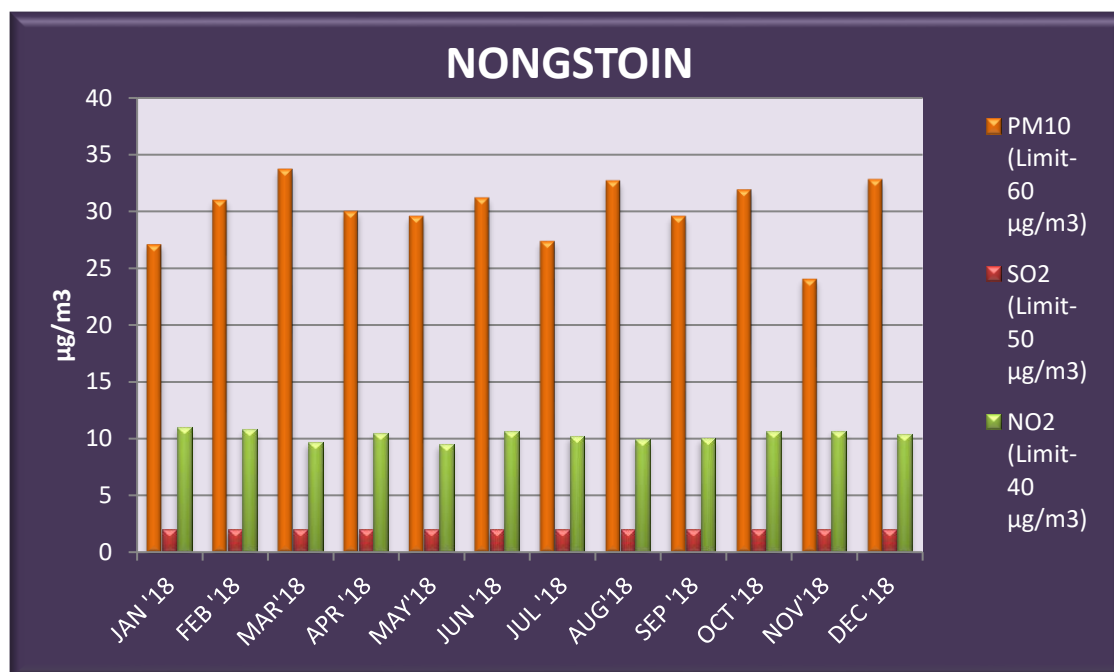


Fig 5.1.7: Monthly average of PM₁₀, SO₂, and NO₂ levels at Nongstoin, West Khasi Hills District

5.1.8: Umiam Industrial Estate, Umiam, Ri-Bhoi District. (Stn – VIII):

Ambient air quality monitoring data during 2018 monitored at Umiam Industrial Estate, Ri-Bhoi District, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), and Nitrogen Dioxide (NO₂) were within the prescribed standards of National Ambient Air Quality standards. Particulate Matter (PM₁₀) levels were above the National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.8 and depicted in Figure 5.1.8.

Table 5.1.8: Ambient Air Quality data at Umiam Industrial Estate, Ri-Bhoi District, 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM ₁₀ (µg/m³)	101.3	103.1	113.1	95.4	100.5	100	105	105.4	107.9	105.4	95.9	105	103.2
SO ₂ (µg/m³)	2	2	2	4	4.1	4.3	2	4.6	4.5	4.5	4.5	4.3	2
NO ₂ (µg/m³)	12.1	13.3	13.5	12.4	12.7	12.2	12.7	9.5	12.3	12.2	12.1	11.7	12.2

Permissible Limits: PM₁₀ (µg/m³) – 60, SO₂ (µg/m³) – 50, NO₂ (µg/m³) – 40

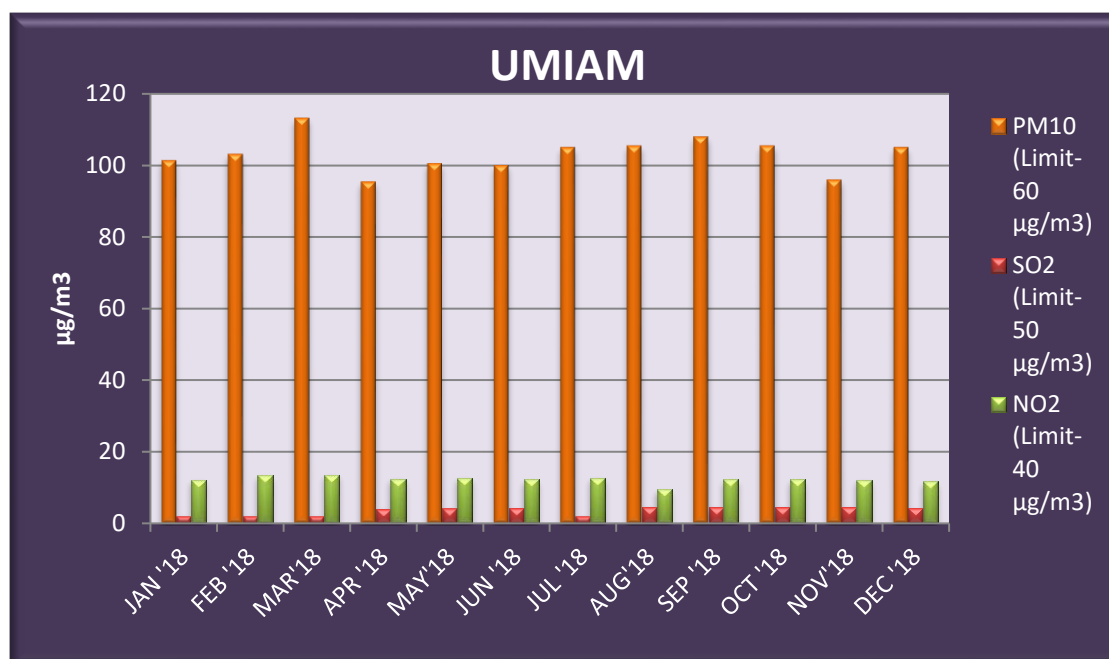


Fig. 5.1.8: Monthly average of PM₁₀, SO₂, and NO₂ levels at Umiam Industrial Estate, Ri-Bhoi District

5.1.9: Forest Rest House, Polo Hills, Shillong, (Stn - IX):

Ambient air quality monitoring data during 2018 monitored at Forest Rest House, Polo Hills, Shillong, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) & Particulate Matter (PM₁₀) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.9 and depicted in Figure 5.1.9.

Table 5.1.9: Ambient Air Quality data at Forest Rest House, Polo Hills, Shillong, 2018

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM ₁₀ (µg/m³)	32.7	38.7	36.5	35.3	26.7	26.8	34	36.3	35.4	36.7	39.4	37.9	34.7
SO ₂ (µg/m³)	2	2	2	2	2	2	2	2	2	2	2	4.2	2
NO ₂ (µg/m³)	10.6	12.3	12	12.2	10.8	9.5	10.8	12.8	12	13	13.4	13.1	11.9

Permissible Limits: PM₁₀ (µg/m³) - 60, SO₂ (µg/m³) - 50, NO₂ (µg/m³) - 40

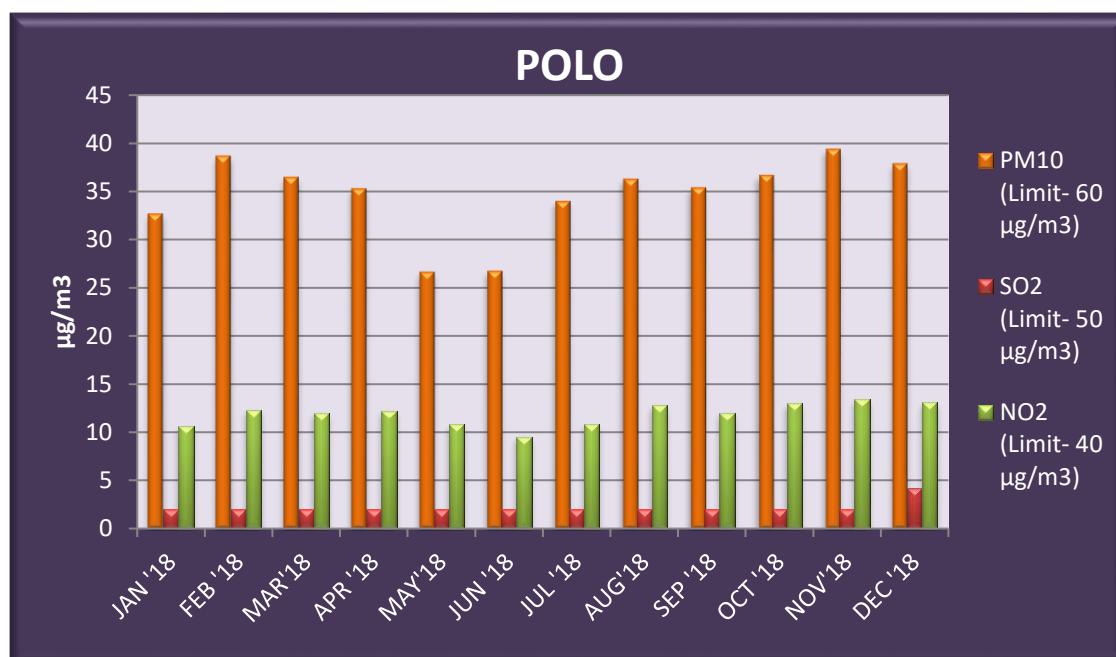


Fig.5.1.9: Monthly average of PM₁₀, SO₂, and NO₂ levels at Forest Rest House, Polo Hills, Shillong.

5.1.10: Myllem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, (Stn - X):

Ambient air quality monitoring data during 2018 monitored at Myllem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, revealed that the Annual Average concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) & Particulate Matter (PM₁₀) were within the prescribed standards of National Ambient Air Quality standards. The monitoring results during the period is shown in Table 5.1.10 and depicted in Figure 5.1.10.

Table 5.1.10: Ambient Air Quality data at Myllem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, 2018.

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM ₁₀ (µg/m ³)	40.9	40.5	46	36.2	27	28.2	26.3	30.3	28.7	36.3	45.4	40.7	35.5
SO ₂ (µg/m ³)	2	2	2	2	2	2	2	2	2	2	2	4.1	2
NO ₂ (µg/m ³)	12.9	14.4	4.5	11.2	10.6	9.9	4.5	9.5	9.5	11.5	12.5	13.6	10.4

Permissible Limits: PM₁₀ (µg/m³) - 60, SO₂ (µg/m³) - 50, NO₂ (µg/m³) - 40



Fig.5.1.10: Monthly average of PM₁₀, SO₂, and NO₂ levels at Myllem Range Office, Social Forestry, 4½ Mile, Upper Shillong.

5.2.0: AMBIENT AIR QUALITY AND SOURCE EMISSION MONITORING

The Board carried out Ambient Air quality (Table 5.2.0) and Source emission monitoring (Table 5.2.01) in residential areas and industrial units operating in the State during 2018-2019. The following results were obtained during the monitoring: -

Table 5.2.0: Ambient Air Quality data during 2018-2019

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m³)	SO ₂ (µg/m³)	NO ₂ (µg/m³)	Remarks
1.	MDC-Multipurpose Sec School, Mawngap	Near Class XI	13.04.18	17.6	--	--	W
				PM2.5			
2.	Good Shepherd Secondary School, Lad Rymbai, EJHD	Near Football Field	10.04.18	8.5			W
				26.4	--	--	W
				PM2.5			
3.	Ambrose Memorial Secondary School, Khliehriat WJHD	Near Basketball Court	11.04.18	10.9			W
				20.8	--	--	W
				PM2.5			
				11.5			W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
4.	Khonjoy Secondary School	School Ground	11.04.18	37.4	--	--	W
				PM2.5			
				11.1			W
5.	Nongthliew Secondary School	Near Staff Room	17.04.18 17.04.18	27.4	--	--	W
				PM2.5			
				11.2			W
6.	Khliehriat Presbyterian Secondary School, Khliehriat	Basketball Court	17.04.18 17.04.18	21.9	--	--	W
				PM2.5			
				11.6			W
7.	Byndihati Secondary School, EJHD	Basketball Court	18.04.18 18.04.18	24.6	--	--	W
				PM2.5			
				11.4			W
8.	Sohiong Secondary School, Mawthuwan	Near Staff Room	24.04.18 24.04.18	27.8	--	--	W
				PM2.5			
				9.7			W
9.	Mawlangwir Higher Secondary School	Basketball Court	24.04.18	32.5	--	--	W
				PM2.5			
				11.0			W
10.	Raid Lyngkhai Secondary School, Khliehlyngkhai	Near Staff Room	25.04.18	17.3	--	--	W
				PM2.5			
				7.9			W
11.	Umkiang Secondary School, Umkiang	School Premises	25.04.18	18.7	--	--	W
				PM2.5			
				9.8			W
12.	Malai Sohmat Sec School, Phlangwanbroi	Near Library	30.04.18	17.8	--	--	W
				PM2.5			
				8.8			W
13.	District Pyndesohsaw Presbyterian High School, Dangar	Near Staff room	02.05.18	19.1	--	--	W
				PM2.5			
				9.1			W
14.	Tyrsad H.Sec School, Tyrsad	Near ADB Building	08.05.18 08.05.18	13.3	--	--	W
				PM2.5			
				7.1			W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
15.	Mawsynram Higher Sec School , Mawsynram	Near Class X	09.05.18	19.2	--	--	W
				PM _{2.5}			
				8.3			W
16.	Cherra Presbyterian Secondary School, Sohra	School Premises	15.05.18	21.5	--	--	W
				PM _{2.5}			
				7.9			W
17.	St. John Bosco Boys' Secondary School, Sohra	School Premises	16.05.18	23.7	--	--	W
				PM _{2.5}			
				7.9			W
18.	M/S Sree Shakambari Ferro Alloys Ltd, Rwiang, WKHD	Residential Colony	16.05.18	130.0	17.8	14.3	A
		Near Ferro Alloys Plant	16.05.18	84.0	6.1	12.7	W
		Near DM Plant	16.05.18	52.9	5.0	11.4	W
19.	Mawiong	Residence of Smti.W. Jitem	30.05.18	70.1	5.4	15.0	W
20.	Mawlai Petrol Pump	O/o Stanley Roy Centre	30.05.18	123.1	6.5	23.4	A
21.	Mawlai Nonglum	Residence of B.Khyriem	30.05.18	72.2	5.3	18.0	W
22.	Coal Depot Sutnga Road	Shikilo coal Depot Sutnga Road	11.06.18	30.5	4.5	9.0	W
23.	Coal Depot Sutnga Road	4 Kilo Coal Dept, Sutnga Road	11.06.18	31.8	3.7	8.7	W
24.	Coal Depot Moolamyliang	Moolamyliang Coal Depot	12.06.18	33.0	4.2	9.4	W
25.	Kongong Coal Depot	Kongong Coal Depot, Wapung	13.06.18	31.7	3.9	9.8	W
26.	Coal Depot Rymbai Road	Coal Depot in Rymbai Road	13.06.18	32.4	4.8	9.2	W
27.	Byndihati Coal Depot	Byndihati Coal Depot	14.06.18	33.0	4.8	10.0	W
28.	Coal Depot, Nongstoin	Thahnar Coal Depot, Nongstoin	12.06.18	36.8	2.9	10.8	W
29.	Mawait Coal Depot, Mawait	Mawait Coal Depot, Mawait	13.06.18	31.5	2.8	9.1	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
30.	Shahlang Coal Depot Shahlang	Shahlang Coal Depot Shahlang	15.06.18	44.6	3.8	13.3	W
31.	Borsara Coal Depot	Borsara Coal Depot	13.06.18	33.8	2.0	11.5	W
32.	Nangalbibra Coal Depot	Nangalbibra Coal Depot	11.06.18	23.8	1.8	7.2	W
33.	Nengkhra Coal Depot	Nengkhra coal Depot	13.06.18	25.8	2.1	8.3	W
34.	Coal Depot, Tamabil	Coal Depot, Tamabil	19.06.18	42.1	4.8	13.7	W
35.	Shillong Expressway Pvt.Ltd, Mawkham, EKHD	Office Premises of Shillong, Exp.Way Pvt. Ltd.	05.07.18	21.1	2.5	15.7	W
36.	ITI, Sohra	School Premises	18.07.18	22.6	--	--	W
				PM _{2.5}			
				4.6	--	--	W
37.	DIET, Sohra	School Premises	19.07.18	22.7	--	---	W
				PM _{2.5}			
				5.2	--	--	W
38.	LUMP, Nongtrai, Shella	Near Transit House	02.08.18	24.8	3.3	8.0	W
		Near Old Nursery	31.07.18	15.2	1.8	5.8	W
		Near Light Section	31.07.18	58.5	2.0	12.5	W
		Magazine Area	31.07.18	22.1	2.0	5.7	W
		Light Section near ETP	31.07.18	59.4	2.5	11.8	W
		Shella Bazar (Non Market)	31.07.18	35.4	2.2	9.6	W
		Pyrkan Village	31.07.18	19.4	2.0	5.8	W
39.	Seng Khasi Secondary School Langkyrdem	School Campus	07.08.18	19.6	--	--	W
				PM _{2.5}			
				4.5	--	--	W
40.	Raid Lyngkhat Presbyterian Secondary School, Nongtyngur	School Campus	08.08.18	22.1	--	--	W
				PM _{2.5}			
				5.2	--	--	W
41.	Megh Power Generation Corporation Ltd.	IB MeECL	08.08.18	11.4	--	--	W
		Trongblang	08.08.18	19.4	--	--	W
		Myntdu Leshka Power House St-1 (main gate)	08.08.18	20.9	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
42.	Khat-Ar-Blang Secondary School, Lankyrdem	School Campus	14.08.18	19.7	--	--	W
				PM _{2.5}			
				5.2	--	--	W
43.	Mahatma Gandhi Memorial Secondary School, UmniuhTmar	School Campus	21.08.18	20.4	--	--	W
				PM _{2.5}			
				6.4	--	--	W
44.	Tynring Pres Higher Secondary School	School Campus	23.08.18	15.6	--	--	W
				PM _{2.5}			
				6.5	--	--	W
45.	Mynken Christian Secondary School, Bhoi Rymbong	School Campus	28.08.18	19.6	--	--	W
				PM _{2.5}			
				6.1	--	--	W
46.	Kyrדם Presbyterian Secondary School, Kyrדם	School Campus	4.09.18	19.0	--	--	W
				PM _{2.5}	--	--	
				6.8			W
47.	Umroi Presbyterian Secondary School, Umroi	School Campus	11.09.18	21.3	--	--	W
				PM _{2.5}			
				9.2	--	--	W
48.	Nehru Memorial Secondary School, Umsning	School Campus	18.09.18	35.8	--	--	W
				PM _{2.5}			
				19.8	--	--	W
49.	Alpha English Higher Secondary School, Nongpoh	Basketball court	25.09.18	21.0	--	--	W
				PM _{2.5}			
				7.2	--	--	W
50.	DIET Nongpoh	Near Administration Building	26.09.18	19.7	--	--	W
				PM _{2.5}			
				6.7	--	--	W
51.	Nongtluh Secondary School (Near Principal Office)	Near Principal Office	03.10.18	17.3	--	--	W
				PM _{2.5}			
				7.1	--	--	W
52.	Pillangkata Secondary School	ADB Building Plot	09.10.18	19.9	--	--	W
				PM _{2.5}	--	--	
				9.7	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
53.	Sakit Christian Secondary, Umtraí	Near Staff Room	16.10.18	18.2	--	--	W
				PM _{2.5}			
				8.0	--	--	W
54.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	01.11.18	41.0	2.1	8.7	W
				36.9	7.1	14.8	W
				23.0	4.7	11.7	W
55.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	02.11.18	30.7	1.6	9.6	W
				42.2	7.4	12.7	W
				26.7	5.0	13.9	W
56.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	03.11.18	27.2	1.5	7.7	W
				44.9	7.6	13.4	W
				21.6	4.5	14.8	W
57.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	4.11.18	23.9	1.6	7.9	W
				48.1	6.8	12.7	W
				30.2	5.2	11.4	W
58.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	05.11.18	28.4	2.0	8.9	W
				49.2	4.2	13.3	W
				35.6	4.3	20.2	W
59.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	06.11.18	30.2	2.1	7.9	W
				55.3	8.1	10.6	W
				39.5	4.0	22.5	W
60.	MSPCB, Pre-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	07.11.18	61.7	6.0	10.7	W
				79.1	9.6	17.5	W
				81.1	16.7	20.8	W
61.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	08.11.18	45.4	5.7	10.5	W
				64.5	5.6	13.3	W
				63.8	5.3	19.7	W
62.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	09.11.18	24.2	2.4	8.0	W
				48.3	4.8	10.9	W
				67.7	5.0	17.3	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
63.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	10.11.18	32.5	2.0	7.7	W
				44.1	5.7	9.7	W
				68.9	5.0	20.4	W
64.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	11.11.18	36.2	1.9	7.6	W
				40.1	4.6	10.5	W
				63.0	5.1	15.0	W
65.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	12.11.18	27.7	1.9	8.4	W
				42.2	5.3	11.8	W
				67.8	4.6	17.5	W
66.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	13.11.18	35.1	2.2	9.0	W
				41.5	6.5	10.6	W
				64.0	4.8	17.4	W
67.	MSPCB, Post-Diwali	Board's Premises Ganesh Das Hospital, Lawmali MLA. Premises Police Bazar	14.11.18	34.5	1.7	8.9	W
				37.4	5.1	11.2	W
				59.3	5.0	17.5	W
68.	Najing Memorial G/A Secondary School	Near Staff Room	12.09.18	22.7	--	--	W
				PM _{2.5}			
				4.5	--	--	W
69.	ITI, Tura	Near Staff Room	13.09.18		--	--	W
				PM _{2.5}			
					--	--	W
70.	Hawakhana Higher Secondary School, Tura	Near Library Room	14.09.18	22.3	--	--	W
				PM _{2.5}			
				5.3	--	--	W
71.	Akonggiri G/A Secondary School, Tura	Near Staff Room	17.09.18	22.9	--	--	W
				PM _{2.5}			
				4.2	--	--	W
72.	Mt. Sinai Secondary School, Tura	Near ADB Building	18.09.18	35.1	--	--	W
				PM _{2.5}			
				12.2	--	--	W
73.	Wadanang Govt. Aided Secondary School, Tura	Near Staff Room	19.09.18	23.2	--	--	W
				PM _{2.5}			
				5.0	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
74.	College to Teacher Education, Tura	Near Administrative Building	20.09.18	24.4	--	--	W
				PM _{2.5}			
				4.8	--	--	W
75.	Gonchudare Secondary School, Gonchudare, WGHD	Near ADB Building	21.09.18	22.6	--	--	W
				PM _{2.5}			
				4.0	--	--	W
76.	Babelapara Higher Secondary School, Purakhasia	Near Class X Room	24.09.18	23.2	--	--	W
				PM _{2.5}			
				4.7	--	--	W
77.	Rohonpara Deficit Secondary School, Rohonpara, WGHD	Near Staff Room	25.09.18	22.8	--	--	W
				PM _{2.5}			
				4.2	--	--	W
78.	Dalu Bengali Deficit Secondary School, Dalu	Near ADB School Building	26.09.18	25.1	--	--	W
				PM _{2.5}			
				6.8	--	--	W
79.	Kherapara Secondary School, Kherapara	Near Staff Room	27.09.18	23.2	--	--	W
				PM _{2.5}			
				5.1	--	--	W
80.	Zekabari Higher Secondary School, Zekabari	Near Class X Room	01.10.18	25.2	--	--	W
				PM _{2.5}			
				5.5	--	--	W
81.	Selsella Hr. Secondary Schhol, Selsella	Near ADB School Building	03.10.18	22.5	--	--	W
				PM _{2.5}			
				4.4	--	--	W
82.	Gimegre Secondary School, Gimegre	Near Staff Room	04.10.18	23.3	--	--	W
				PM _{2.5}			
				5.1	--	--	W
83.	Bhaitbari Hr. Secondary School, Bhaitbari, WGHD	Near School Field	05.10.18	24.1	--	--	W
				PM _{2.5}			
				7.2	--	--	W
84.	Garo Badha Secondary School, Garobadha	Near Staff Room	08.10.18	24.3	--	--	W
				PM _{2.5}			
				7.8	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
85.	Pedaldoba Secondary School, Pedaldoba, WGHD	Near Basketball Court	09.10.18	22.7	--	--	W
				PM _{2.5}			
				4.4	--	--	W
86.	Raksamgre Secondary School, Raksamgre	Near Class VIII Room	10.10.18	23.2	--	--	W
				PM _{2.5}			
				5.2	--	--	W
87.	Tikrikilla Higher Secondary School, Tikrikilla	Near Staff Room	11.10.18	23.8	--	--	W
				PM _{2.5}			
				8.2	--	--	W
88.	Williampur Secondary School, Williampur	Near School Field	12.10.18	23.4	--	--	W
				PM _{2.5}			
				6.1	--	--	W
89.	Janapriya Hr. Secondary School, Bholarbhita	Near School Field	22.10.18	23.2	--	--	W
				PM _{2.5}			
				5.4	--	--	W
90.	Bikonggre G/A Secondary School, Bikonggre, WGHD	Near Staff Room	23.10.18	22.4	--	--	W
				PM _{2.5}			
				4.1	--	--	W
91.	Dilsigre Secondary School Dilsigre	Near ADB School Building	24.10.18	22.7	--	--	W
				PM _{2.5}			
				4.6	--	--	W
92.	Rongbagre Secondary School, Rombagre	Near School Field	25.10.18	23.2	--	--	W
				PM _{2.5}			
				5.1	--	--	W
93.	Sibbari Secondary School, Sibbari	Near Staff Room	01.11.18	24.2	--	--	W
				PM _{2.5}			
				11.0	--	--	W
94.	Rongrikingre G/A Secondary School	Near Staff Room	02.11.18	23.1	--	--	W
				PM _{2.5}			
				9.0	--	--	W
95.	Rangku Memorial Secondary School	Near ADB School Building	05.11.18	25.1	--	--	W
				PM _{2.5}			
				11.2	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
96.	ITI Baghmara	Near ADB School Building	06.11.18	23.2	--	--	W
				PM _{2.5}			
				11.8	--	--	W
96.	DIET Baghmara	Near Diet Office Room	12.11.18	23.4	--	--	W
				PM _{2.5}			
				14.1	--	--	W
98.	Karukol G/A Secondary School	Near ADB School Building	13.11.18	23.3	--	--	W
				PM _{2.5}			
				13.4	--	--	W
99.	Mellim Deficit Secondary School	Near Staff Room	13.11.18	24.4	--	--	W
				PM _{2.5}			
				9.1	--	--	W
100.	Rangsakona Secondary School	Near Class IX Room	16.11.18	23.5	--	--	W
				PM _{2.5}			
				12.7	--	--	W
101.	Vidyamoni G.A Sec. School	Near Staff Room	19.11.18	23.0	--	--	W
				PM _{2.5}			
				11.3	--	--	W
102.	Monobari Secondary School	Near ADB Building	20.11.18	22.9	--	--	W
				PM _{2.5}			
				10.5	--	--	W
103.	Rongsang Abagre Secondary School	Near Staff Room	21.11.18	23.6	--	--	W
				PM _{2.5}			
				10.6	--	--	W
104.	Salmanpara Secondary School	Near Class VII Room	22.11.18	23.2	--	--	W
				PM _{2.5}			
				10.6	--	--	W
105.	Bandalkono Secondary School	Near Staff Room	26.11.18	23.8	--	--	W
				PM _{2.5}			
				12.4	--	--	W
106.	Katuli Sec. School	Near Staff Room	27.11.18	23.1	--	--	W
				PM _{2.5}			
				9.8	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
107.	Boldamgre Deficit Secondary School	Near ADB Building	28.11.18	24.1	--	--	W
				PM _{2.5}			
				11.5	--	--	W
108.	Nogorpara Deficit Secondary School	Near Staff Room	29.11.18	23.5	--	--	W
				PM _{2.5}			
				10.5	--	--	W
109.	Lady Keane College	Near Proffessor's Room	10.12.18	32.4	3.5	10.2	W
110.	Office of the Meghalaya State Legislative Assembly	Near Meghalaya State Legislative Assembly	24.12.18	51.8	3.5	14.5	W
111.	Office of the Meghalaya State Legislative Assembly	Near Meghalaya State Legislative Assembly	31.12.18	56.7	3.7	14.9	W
112.	Adokgiri Secondary School	Near Staff Room	14.01.19	23.8	--	--	W
				PM _{2.5}			
				5.2	--	--	W
113.	Omed Memorial Secondary School	Near ADB Building	15.01.19	23.1	--	--	W
				PM _{2.5}			
				5.4	--	--	W
114.	Damas Secondary School	Near ADB School Building	16.01.19	24.1	--	--	W
				PM _{2.5}			
				4.9	--	--	W
115.	Manikganj Secondary School	Near ADB Building	17.01.19	23.5	--	--	W
				PM _{2.5}			
				4.7	--	--	W
116.	ITI Resubelpara	Near ADB Building	18.01.19	24.7	--	--	W
				PM _{2.5}			
				5.3	--	--	W
117.	DIET-Resubelpara	Administrative Building	22.01.19	23.7	--	--	W
				PM _{2.5}			
				6.2	--	--	W
118.	Resubelpara Girls' Higher Secondary School	Near ADB Building	23.01.19	24.5	--	--	W
				PM _{2.5}			
				5.8	--	--	W
119.	Bajengdoba Higher Secondary School	Near Staff Room	24.01.19	23.4	--	--	W
				PM _{2.5}			
				4.9	--	--	W

Sl.No.	Name of Industry/Location	Sampling Station	Date of Sampling	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	Remarks
120.	Green Yard Secondary School	Near ADB Building	25.01.19	23.9	--	--	W
				PM _{2.5}			
				6.6	--	--	W
121.	ITI Williamnagar	Near ADB Building	28.01.19	22.9	--	--	W
				PM _{2.5}			
				5.9	--	--	W
122.	United Songsak Secondary School	Near Staff Room	29.01.19	23.3	--	--	W
				PM _{2.5}			
				4.8	--	--	W
123.	United Rongjeng Secondary School	Near Staff Room	30.01.19	24.8	--	--	W
				PM _{2.5}			
				6.8	--	--	W
124.	Mangsang Secondary School	Near ADB Building	31.01.19	23.2	--	--	W
				PM _{2.5}			
				5.1	--	--	W
125.	Rongsakgiri Secondary School	Near Staff Room	01.02.19	23.0	--	--	W
				PM _{2.5}			
				4.7	--	--	W
126.	M/S Nalari Ferro Alloys,EPIP, Byrnihat	Near Main Gate	06.03.19	189.3	18.2	12.6	A
127.	MIDC Quarter, Byrnihat.	Near MIDC Quarter (Near to Dispensary)	06.03.19	179.1	35.8	14.3	A
128.	M/S Amrit Cements Pvt. Ltd, Mynkre	Main Receiving Sub Station (MRSS)	12.03.19	80.8	4.7	15.6	W
129.	M/S Green Valley Industries Ltd.	Near Guest House	12.03.19	77.0	3.9	16.1	W
130.	M/S Meghalaya Cements Ltd,Thangskai	Near Guest House	19.03.19	87.7	7.3	29.2	W
131.	M/S Goldstone Cements Ltd, Moosiang Lamere	Near Mandir	19.03.19	70.0	4.7	16.3	W
		Near Sec Crusher	19.03.19	197.5	12.0	35.9	A
		Near CPP	19.03.19	257.6	9.6	34.7	A
132.	NESAC Umiam,Ri Bhoi	Near Guest House Residential Quarters	28.03.19	144.6	5.5	18.6	A
				122.1	5.3	15.5	A
			28.03.19	PM _{2.5}			
				81.9			A
133.	NAMP Station,Umiam	AAQM Station (NAMP)	28.03.19	136.3	5.6	14.6	A

W - Within Permissible Limits

A - Above Permissible Limits

Table 5.2.01: Source Emission Monitoring data during 2018-2019.

Sl. No	Name of Sampling location	Date of Sampling	Type of Stack	Parameters tested	Observed value (mg/Nm ³)	Remarks
1.	M/S Shakambari Ferro Alloys (P) Ltd., Rwiang, W.K. Hills District.	17.05.18	Power Plant	PM	42.3	W
		17.05.18	Scrubber	PM	21.9	W
2.	M/S Reliance Jio Intercom Ltd., Demseiniong, Shillong,	03.08.18	DG Set No.2	PM	0.02 g/kW-hr	W
		10.08.18	DG Set No.1	PM	0.05 g/kW-hr	W
		10.08.18	DG Set No.3	PM	0.04 g/kW-hr	W
3.	Power System Operation Corporation Ltd., Nongrah, Shillong,	12.02.19	DG Set No.1	PM	0.45 g/kW-hr	A
		12.02.19	DG Set No.2	PM	0.2 g/kW-hr	W
4.	M/S Amrit Cements Pvt. Ltd., Mynkre,	12.03.19	RABH	PM	25.1	W
		12.03.19	Cement Mill	PM	21.1	W
5.	M/S Meghalaya Cements Ltd., Thangskai,	19.03.19	Cement Mill No.1	PM	16.6	W
6.	M/S Goldstone Cements Ltd., Moosiang Lamare	20.03.19	Power Plant	PM	20.4	W
		20.03.19	Cement Mill	PM	16.1	W

2. Monitoring of Ambient Air Quality in some Selected Sampling Location of Coal Depot in the State.

To assess the ambient air quality in the major coal depot in the State, the Meghalaya State Pollution Control Board conducted the monitoring in some selected sampling locations of the major coal depots located in East & West Jaintia Hills District, West Khasi Hills District, South West Khasi Hills District, East Garo Hills District, and South Garo Hills District, during 11th to 22nd June 2018. Ambient air quality monitoring was performed by the method prescribed by CPCB. The parameters selected for the purpose of monitoring the ambient air quality include the Respirable Particulate Matter or PM₁₀, Sulphur-Dioxide (SO₂), Nitrogen dioxide (NO₂). Monitoring was being carried out for 24 hours (4 hourly sampling for gaseous pollutants & 8 hourly sampling for particulate matter). The monitoring of meteorological parameters such as wind speed and direction, relative humidity and temperature was also integrated with the monitoring of the air quality.

The sampling locations spread over the above mentioned districts covering residential, commercial, and coal storage is as follows (Table 1.0).

Table 1.0: Sampling Locations for Ambient Air Quality Monitoring

Sl. No	Sampling Location	District	Area Classification
1.	Shikilo	East Jaintia Hills District	Coal Storage, Residential & Commercial
2.	Sookilo		Coal Storage, Residential & Commercial
3.	Moolamyliang		Coal Storage, Residential & Commercial
4.	Kongong		Coal Storage, Residential & Commercial
5.	Byndihati		Coal Storage, Residential
6.	Rymbai Road		Coal Storage, Residential & Commercial
7.	Dawki (Tamabil)	West Jaintia Hills District	Coal Storage, Residential & Commercial
8.	Maweit	West Khasi Hills District	Coal Storage, Residential & Commercial
9.	Thahnar		Coal Storage, Residential
10.	Shallang		Coal Storage, Residential & Commercial
11.	Borsora	South West Khasi Hills District	Coal Storage, Residential & Commercial
12.	Nengkhra	East Garo Hills District	Coal Storage, Residential & Commercial
13.	Nangalbibra	South Garo Hills District	Coal Storage, Residential & Commercial

OBSERVATIONS AND FINDINGS:

1. *East Jaintia Hills District*

The PM₁₀ concentrations in East Jaintia Hills ranged from a minimum of 30.5 µg/m³ at Shikilo (a residential area) to a maximum of 33.0 µg/m³ at Moolamyliang and Byndihati (a residential and commercial area respectively) (Table 2.0). Concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were within the prescribed standards at all the locations (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted.

2. *West Jaintia Hills District*

The PM₁₀ concentration in Dawki (Tamabil), (a residential and commercial area) was recorded at 42.1 µg/m³ (Table 2.0). Concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were within the prescribed standards (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted.

3. *West Khasi Hills District*

The PM₁₀ concentrations in West Khasi Hills ranged from a minimum of 31.5 µg/m³ at Maweit (a residential area) to a maximum of 44.6 µg/m³ at Shallang (a residential and commercial area) (Table 2.0). Concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO_x) were within the prescribed standards at all the locations (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted.

4. *South West Khasi Hills District*

The PM₁₀ concentration in Borsora, (a residential and commercial area) was recorded at 33.8 µg/m³ (Table 2.0). Concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were within the prescribed standards (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted.

5. *East Garo Hills District*

The PM₁₀ concentration in Nengkhra, (a residential and commercial area) was recorded at 25.8 µg/m³ (Table 2.0). Concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were within the prescribed standards (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted.

6. *South Garo Hills District*

The PM₁₀ concentration in Nangalbibra (a residential and commercial area) was recorded at 23.8 µg/m³ (Table 2.0). Concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were within the prescribed standards (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted.

Conclusion:

The findings on the assessment of air quality in some coal depot areas of the State conducted by the Board revealed that the concentrations of PM₁₀, Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were found to be within the prescribed standards in all the sampling locations (Table 3.0). It was observed that there was no activity (loading or unloading of coal) in all the coal depots where monitoring was conducted. In comparison, the concentration of PM₁₀

was slightly higher in Dawki (Tamabil), West Jaintia Hills District and in Shillong, West Khasi Hills District, which may perhaps be attributed to dust arising from movement of vehicles, as the sampling station was in close proximity to the main road, the natural windblown dust, bad road condition and suspension of natural dust due to dry weather also increases the concentration of PM_{10} .

Table 2.0: Ambient Air Quality data at Coal Depot

Sl. No.	Sampling Location	Parameters (24 hours avg.)			Meteorological Parameters							
		PM_{10} ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	Temp. ($^{\circ}C$)		RH (%)		Wind speed (km/hr)		Wind direction	Weather condition
					Min	Max	Min	Max	Min	Max	Most prevailing	
1.	East Jaintia Hills Shikilo	30.5	4.5	9.5	9.6	20.1	55.7	89.2	0.9	7.7	NW-SE	P/rainy
2.	Sookilo	31.8	2.0	4.5	10.9	19.7	60.4	91.3	0.9	7.2	NW-SE	P/rainy
3.	Moolamyllyang	33.0	4.2	9.5	11.4	21.3	51.5	90.2	0.4	6.7	NE-SW	P/rainy P/cloudy
4.	Kongong	31.7	2.0	9.8	11.8	20.4	49.6	89.8	0.7	7.1	NE-SW	P/rainy P/cloudy
5.	Byndihati	33.0	4.8	10.0	10.4	20.6	50.9	89.7	0.4	6.2	NE-SW	P/rainy P/cloudy
6.	Rymbai Road	32.4	4.8	9.5	10.7	21.4	49.6	89.1	0.5	6.7	NE-SW	P/rainy P/cloudy
	West Jaintia Hills Dawki (Tamabil)	42.1	4.8	13.7	18.4	29.6	82.1	96.4	0.2	3.6	SE-NW	Clear
7.	West Khasi Hills Maweit	31.5	2.0	9.5	16.4	24.8	68.7	83.2	0.4	6.8	SE-NW	P/clear P/rain
8.	Thahnar	36.8	2.0	10.8	14.1	19.7	56.9	81.4	0.4	11.6	SE-NW	P/clear P/rain
9.	Shillong	44.6	2.0	13.3	16.2	26.7	49.4	65.6	0.3	5.7	SE-NW	P/clear
10.	South West Khasi Hills Borsora	33.8	2.0	11.5	16.5	27.3	60.4	73.5	0.3	3.6	SW-NE	P/rainy P/cloudy
11.	East Garo Hills Nengkhra	25.8	2.0	4.5	24.9	31.5	43.2	51.8	0.4	2.3	NE-SW	P/clear Clear
12.	South Garo Hills Nangalbibra	23.8	2.0	4.5	25.5	29.8	46.4	56.3	0.3	3.3	NE-SW	P/rainy P/cloudy

Table 3.0: National Ambient Air Quality Standards

NATIONAL AMBIENT AIR QUALITY STANDARDS				
Sl. No.	Pollutant	Time Weighted Average	* Concentration in Ambient Air	
			Industrial, Rural, and Other Areas.	Ecologically Sensitive Areas (Notified by Central Government)
1.	Particulate Matter (PM ₁₀) ($\mu\text{g}/\text{m}^3$)	24 hours	100	100
2.	Sulphur Dioxide (SO ₂) ($\mu\text{g}/\text{m}^3$)	24 hours	80	80
3.	Nitrogen Dioxide (NO ₂) ($\mu\text{g}/\text{m}^3$)	24 hours	80	80
* Permissible limits of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated New Delhi, the 16th Nov. 2009.				

ASSESSMENT OF VEHICULAR POLLUTION

The Board had an Auto-emission-testing centre in its office premises at Lumpyngngad, Shillong which had been functioning since January 1994. The centre caters to the exhaust testing needs for the commercial and private light petrol and diesel driven vehicles only.

As per arrangement with the Office of the Commissioner of Transport, Meghalaya, the periodical renewals of permits of taxis are subject to submission of “Green Certificates” issued from the Office of the Board. The number of vehicles tested during the period from 01.04.2018 to 31.03.2019 is as stated below:-

PERIOD	TYPE OF VEHICLES	TOTAL NO. OF VEHICLES TESTED	PERCENTAGE OF VEHICLES COMPLYING TO EMISSION STANDARDS	PERCENTAGE OF VEHICLES NON-COMPLYING TO EMISSION STANDARDS
01.04.2018 to 31.03.2019	Petrol-Driven LMV	9556	100 %	-
	Diesel-Driven LMV	2154	99 %	1%

CHAPTER VI

WATER QUALITY MONITORING

6.1.0 MONITORING OF WATER QUALITY

Meghalaya is one of the most beautiful hill state situated in the North Eastern India. The State is endowed generously by nature as far as water resources are concerned. A number of perennial rivers, lakes and waterfalls grace this land on eternal charm and beauty. There are several rivers and streams, which have comparatively smaller stretch but are quite important due to their uses of water as most of them are exploited for drinking water, irrigation, industries, waste disposal etc.

Since last few decades or so the State has started facing serious problems of surface and ground water pollution due to indiscriminate discharge of untreated municipal effluents, industries, agricultural runoff, open defecation and dumping of solid wastes on the river banks also contributed to water pollution. Unorganized mining activities mainly of coal on a large scale in almost all the parts of the State was another major source of water pollution.

In order to obtain information regarding the overall health and general environmental state of the rivers and ground water resources of the State, the Meghalaya State Pollution Control Board was monitoring the water quality of the selected water bodies in the State under National Water Monitoring Programme (NWMP) on regular basis. The monitoring covers 20 rivers/streams, 4 lakes and 7 spring/well. A total of 54 sampling locations (47 nos. of surface water and 7 nos. of ground water) were monitored. The monitoring of the water quality was one of the purpose of prevention and control of water pollution and maintaining or restoring the wholesomeness of water as indicated in the Water (Prevention and Control of Pollution) Act 1974. The monitoring was done on monthly basis for surface and on half yearly basis for ground water. The regular parameters analyzed included pH, Conductivity, Turbidity, Total Suspended Solids, Total Dissolved Solids, Nitrite Nitrogen, Nitrate Nitrogen (NO_3), Ammonia Nitrogen, Kjeldahl Nitrogen, Sulphate, Chloride, Hardness, Calcium, Magnesium, Sodium, Potassium, Total Phosphate Acidity, Alkalinity, Fluoride, Dissolved Oxygen, Bio-Chemical Oxygen Demand, Chemical Oxygen Demand, Total Coliform, Fecal Coliform. The metals viz. Iron, Zinc, Manganese, Copper, Lead, Cadmium, Chromium and Nickel were analyzed once a year in the month of April. The detail of the monitoring stations with regard to location is as mentioned in the Table-6.1.0.

Table 6.1.0: Monitoring of Surface Water Quality in Meghalaya

District	Name of Water Bodies	Locations of Sampling Station	Monitoring Frequency
Ri-Bhoi	Umiam Lake	Outfall of Umiam River into lake Near United Christian College Exit point Middle point	Monthly
	Umtrew River	Umran Byrnihat	Monthly
East Khasi Hills	Umkhen River	WahKdait Ksehpongden Diengpasoh	Monthly
	Umkhrah River	Demthring, Shillong Umkaliar, Shillong Mawlai, Slaughter Mawpdang	Monthly
	Umshyrpi River	Risa Colony Law College, Dhanketi Umshyrpi Bridge	Monthly
	Umiam Mawphlang River	Nongkrem Umtynngar Mawphlang Shella	Monthly
	Ward's Lake	Shillong	Monthly
	Umngot River	Smit Dawki	Monthly
West Khasi Hills	Nonbah River	Nongstoin Market Phodsohsat Sohiong	Monthly
	Kynshi River	Nongkhnum Ranikor	Monthly
	Rilang River	Mawkyrwat	Monthly
	Wah Blei	Riangdo Shdaddkhar	Monthly
Jaintia Hills	Lukha River	Lunar at Myndihati (Tributary of Lukha) Sunapur	Monthly
	Myntang River	Mynso Nartiang	Monthly
	Myntdu River	Jowai Leshka	Monthly
	Thadlaskein Lake	Mukhla	Monthly
	Kyrhukhla River	Khliehriat	Monthly

District	Name of Water Bodies	Locations of Sampling Station	Monitoring Frequency
East Garo Hills	Damring River (Krishnei)	Resubelpara	Monthly
	Manda (Dudhnaï) River	Jampa Wagaisi	Monthly
	Tasek Lake	Songsak (Naphak)	Monthly
	Simsang River	Williamnagar	Monthly
South Garo Hills	Bugi River	Mibanpara Dalu	Monthly
West Garo Hills	Ganol River	Tura	Monthly
GROUND WATER			
East Khasi Hills	Police Bazar Spring	Shillong	Half yearly
	Mawpdang Spring	Shillong	Half yearly
	Wah U Dkhar Spring	Sohra	Half yearly
Jaintia Hills	Umsahep Spring	Shangpung	Half yearly
Ri-Bhoi	Narbong Well	Byrnihat	Half yearly
West Khasi Hills	Mawthadrishan Well	Markasa	Half yearly
South West Khasi Hills	Jakrem Hot Spring	Jakrem	Half yearly

1. 6.1.1: Water Quality of the Sampling Stations in the Districts of Meghalaya

a) WATER QUALITY OF RIVERS IN EAST KHASI HILLS

17 (Seventeen) sampling stations were located in East Khasi Hills. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5. The dissolved Oxygen was observed to be very low in some sampling location of Umkhrah and Umshyrpi Rivers with the minimum value of 1.4 mg/l recorded at Umshyrpi River (Law College) and 0.8 mg/l at Umkhrah River at Slaughter House Mawlai, whereas its concentration in other rivers was always above 4mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be above 3mg/l in Ward's lake, Umkhrah and Umshyrpi Rivers. The total coliform count was observed to be above 5000mpn/100ml in Umkhrah and Umshyrpi Rivers. The monitoring results indicated that organic and bacteria were the main pollutants in the water bodies. This was mainly due to direct discharge of waste water in an untreated form from the residential and commercial centres .The amount of waste received by

the two rivers viz. Umkhrah and Umshyrpi Rivers was much beyond their assimilative capacity and thus had deteriorated the water quality to the extent that the water of these two Rivers cannot be put to any beneficial uses. The water quality of Ward's Lake, meets the criteria for propagation of wildlife and fisheries. The water quality of other water bodies was satisfactory.

b) WATER QUALITY OF RIVERS IN WEST KHASI HILLS

8 (Eight) sampling stations were located in West Khasi Hills. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5. The Dissolved Oxygen content in all monitored rivers was always above 4mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be above 3mg/l and Total Coliform count above 500mpn/100ml in Nanbah River at Nongstoin. Located in the centre of the District headquarter, this River was also subjected to pollution arising out of direct disposal of solid and liquid waste from residential & commercial areas, automobile workshops and servicing centres etc. and agricultural runoff. However, the water of this River can be used for propagation of wildlife & fisheries and irrigation purposes. The water quality of other water bodies was satisfactory.

c) WATER QUALITY OF RIVERS IN RI-BHOI

6 (Six) sampling stations were located in Ri-Bhoi. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5. The dissolved Oxygen content in all the Stations was found to be above 4mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be above 3mg/l in Umiam Lake and Umtrew River at Byrnihat. The total Coliform count in these water bodies was also observed to be high. The Umiam Lake received the waste that was generated in the Shillong city through the two rivers viz. Umkhrah and Umshyrpi Rivers whereas the Umtrew River was subjected to pollution originating from the residential, commercial and industrial areas. The water of Umiam Lake and Umtrew River can be used for propagation of wildlife & fisheries, and irrigation purposes. The water quality of other water bodies was satisfactory.

d) WATER QUALITY OF RIVERS IN JAINTIA HILLS

8 (Eight) sampling stations were located in Jaintia Hills. The pH in (i) Myntdu River at Leshka (ii) Lunar River at Myndihati (iii) Kyrhukhla river at Lad-Rymbai was observed to be very low. Low pH indicates that water was acidic in nature which was mainly due to acid effluent from coal mines located on the catchment and in the upstream side the dissolved Oxygen in all monitored rivers were always above 4mg/l, which were the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be above 3mg/l in Kyrhukhla River and Lunar River at Myndihati. The total coliform count was observed to be above 500mpn/100 ml in Myntdu River mainly due to contamination from the domestic waste water/sewage. Due to low pH, the water of i) Myntdu River at Leshka (ii) Lunar River at Myndihati (iii) Kyrhukhla river at Lad-Rymbai cannot be put to any beneficial uses. The water quality of other water bodies was relatively satisfactory.

e) WATER QUALITY OF RIVERS IN GARO HILLS

8 (Eight)) sampling stations were located in Garo Hills. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5. The dissolved Oxygen content in all the stations was found to be above 4mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be below 3mg/l in all the monitored water bodies. The total Coliform count was observed to be moderately high in Simsang & Ganol River. The water quality of all monitored water bodies was relatively satisfactory.

Table 6.1.1: Water Quality Data JAN-DEC 2018

Districts	Name of Rivers	WATER QUALITY CRITERIA OF CPCB →	pH 6.5 - 8.5			DO >4.0mg/L			BOD <3.0mg/L			FC <2500MPN/100ml			TC <5000MPN/100ml		
		LOCATION ↓															
			Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
East Khasi Hills	Umkenh River	Wah Kdait	6.9	7.4	7.1	6.6	7.5	7.0	1.4	2.3	1.7	14	27	20	110	170	135
		Ksehpondeng	6.7	7.5	7.0	6.4	8.6	7.3	1.2	1.8	1.5	11	26	14	110	170	135
		Diengpasoh	7.4	7.5	7.4	6.2	8.0	7.4	1.2	1.8	1.5	12	21	15	94	170	134
	Umkehrh River	Demthring Shillong	6.9	7.6	7.1	1.5	3.8	2.6	18.0	35.0	25.6	3100	70000	34425	39000	140000	87583
		Umkalier, Shillong	7.1	7.8	7.4	3.5	6.2	5.1	9.5	27.0	17.2	2600	79000	40966	58000	170000	107333
		Mawlai, Slaughter	7.2	7.6	7.3	0.8	2.4	1.4	25.0	46.0	34.6	35000	120000	67916	84000	350000	189833
		Mawpdang	7.1	7.7	7.3	1.0	3.0	2.1	1.5	40.0	30.3	29000	140000	85166	120000	410000	239166
	Umshyrpi River	Risa Colony	6.8	7.3	6.9	6.4	8.6	7.4	1.4	2.4	1.9	17	36	25	110	220	143
		Law College, Dhanketi	7.0	7.5	7.2	1.4	2.7	1.9	24.0	40.0	32.5	22000	84000	47166	52000	200000	109666
		Umshyrpi, Bridge	7.1	7.6	7.2	3.8	5.8	4.8	8.9	22.0	13.5	12000	49000	31416	35000	130000	73416
	Umiam Mawphlang River	Nongkrem	6.6	7.2	6.8	5.6	7.2	6.5	1.8	2.6	2.1	17	27	23	110	210	146
		Umtyngngar	6.8	7.5	7.1	6.2	8.0	7.3	1.2	2.1	1.6	17	26	21	79	150	107
		Mawphlang	7.0	7.4	7.1	6.9	8.6	7.5	1.4	1.9	1.6	11	23	16	94	220	145
		Shella	7.31	7.8	7.6	7.3	8.4	7.8	1.0	1.8	1.2	16	22	19	110	210	146
	Ward's Lake	Shillong	7.1	8.5	7.5	6.2	9.0	6.9	4.0	6.0	4.7	790	1700	1107	2700	3900	3433
	Umngot River	Smit	6.5	7.2	6.8	5.6	7.9	7.0	1.3	2.5	1.7	15	23	19	84	170	121
		Dawki	6.9	7.6	7.2	6.8	8.7	7.8	1.0	1.5	1.2	12	22	16	70	150	111

Districts	Name of Rivers	WATER QUALITY CRITERIA OF CPCB →	pH 6.5 - 8.5			DO >4.0mg/L			BOD <3.0mg/L			FC <2500MPN/100ml			TC <5000MPN/100ml		
		LOCATION ↓															
			Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
Ri-Bhoi	Umiam Lake	Outfall of Umiam River	6.8	8.3	7.1	3.0	7.7	4.3	4.6	10.0	8.2	2000	2700	2291	3600	5800	4766
		Near United Christian College	6.9	9.8	7.6	3.0	6.2	5.2	4.2	7.8	6.1	1300	2200	1766	2400	4400	3491
		Exit Point	7.3	9.5	7.7	5.0	9.3	6.08	3.6	7.0	5.6	1400	2300	1975	3100	4900	4016
		Middle Point	7.2	9.8	7.7	4.6	11.5	6.2	4.0	8.6	6.0	1100	2300	1650	2700	4300	3516
	Umtrew River	Umran	6.7	7.5	7.1	6.8	8.6	7.6	1.0	4.3	1.7	28	79	46	120	540	257
		Byrnihat	7.0	7.4	7.2	6.0	7.2	6.7	4.0	5.7	4.8	39	2100	328	220	3500	1269
West Khasi Hills	Nonbah River	Nongstoin, Market	6.7	6.9	6.8	6.0	7.2	6.6	2.0	5.0	3.5	94	350	157	580	2100	1081
		Phod Sohsat	6.8	7.2	7.0	7.1	8.7	7.7	1.0	1.6	1.3	17	25	21	79	140	113
	Kynshi River	Sohiong	6.5	7.1	6.8	7.1	9.0	7.8	1.1	1.9	1.4	13	22	18	94	170	134
		Nongkhnum	6.9	7.2	7.0	7.3	9.0	7.9	1.0	1.6	1.2	13	23	18	79	150	116
		Ranikor	6.4	6.9	6.6	6.8	8.8	7.4	1.8	2.5	2.2	17	24	20	63	150	112
	Rilang River	Mawkyrwat	6.9	7.4	7.1	7.3	8.8	7.9	1.0	1.6	1.2	13	21	17	58	130	90
	Wah Blei	Riangdo	7.0	7.3	7.1	6.6	8.6	7.3	1.0	1.9	1.5	13	24	18	63	120	88
		Shdaddkhar	6.2	6.8	6.6	7.0	8.7	7.7	1.2	1.9	1.5	12	21	16	63	130	94

Districts	Name of Rivers	WATER QUALITY CRITERIA OF CPCB →	pH 6.5 - 8.5			DO >4.0mg/L			BOD <3.0mg/L			FC <2500MPN/100ml			TC <5000MPN/100ml		
		LOCATION ↓	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
Jaintia Hills	Lukha River	Lunar at Myndihati (Tributary of Lukha)	2.6	6.6	3.2	5.7	8.9	6.6	3.5	5.2	4.4	2	4	2	2	11	5
		Sunapur	7.0	7.8	7.2	7.1	9.0	7.7	1.3	2.0	1.6	27	41	35	140	350	226
	Myntang River	Mynso	6.8	7.3	7.0	5	8.4	7.3	1.1	1.9	1.4	9	17	13	79	210	127
		Nartiang	6.8	7.3	7.1	6.8	8.6	7.5	1.0	1.7	1.3	22	32	26	110	170	135
	Myntdu River	Jowai	6.7	7.4	6.9	5.0	7.5	6.3	1.9	4.8	2.9	920	2200	1474	2700	4600	3927
		Leshka	4.9	6.2	5.3	6.8	8.3	7.3	1.2	1.8	1.5	11	22	15	58	110	77
	Thadlaskein Lake	Mukhla	6.7	7.3	7.1	6.2	8.2	7.1	1.4	2.2	1.7	14	24	19	70	130	100
	Kyrhukhla River	Khliehriat	2.4	4.1	3.0	6.2	7.4	6.7	3.2	4.3	3.8	4	12	8	25	49	36
East Garo Hills	Damring River (Krishnei)	Resubelpara	7.1	7.4	7.2	7.1	8.2	7.6	1.2	1.9	1.5	25	34	29	150	240	197
	Manda (Dudhnai) River	Jampa	6.7	7.5	7.1	6.8	8.3	7.4	1.1	6.0	1.8	22	31	25	120	220	156
		Wagaisi	7.2	7.6	7.4	7.2	8.3	7.7	1.0	1.6	1.3	21	31	25	130	280	180
	Tasek Lake	Songsak (Naphak)	6.8	7.4	7.1	6.3	7.5	6.9	1.4	2.0	1.7	24	36	28	84	210	129
	Simsang River	Williamnagar	7.2	7.5	7.3	7.1	8.6	7.7	1.0	1.8	1.4	64	210	105	350	2200	1061

Districts	Name of Rivers	WATER QUALITY CRITERIA OF CPCB →	pH 6.5 - 8.5			DO >4.0mg/L			BOD <3.0mg/L			FC <2500MPN/100ml			TC <5000MPN/100ml		
		LOCATION ↓	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
South Garo Hills	Bugi River	Mibanpara	7.3	7.5	7.4	7.2	8.0	7.5	1.2	2.0	1.6	21	27	23	110	220	157
		Dalu	7.4	7.6	7.5	7.1	8.0	7.4	1.2	2.0	1.5	17	27	22	52	120	80
West Garo Hills	Ganol River	Tura	7.1	7.5	7.2	7.2	8.4	7.7	1.0	2.0	1.4	110	940	366	79	1500	895

6.1.2 Ground Water Quality

A total of 7 (Seven) ground water located all over the State was monitored. The water of all the monitored sources was used for different purposes. As per the monitoring results (Table 6.1.2), the sources were affected by bacterial contamination which was probably caused by percolation of polluted surface water. The pH level at hot spring Jakrem was recorded to be high which was probably due to increase solubility of salts in hot water. Flouride concentration was also recorded to be high at this hot spring which was the characteristic of any hot spring.

Table 6.1.2: Ground Water Quality in Meghalaya during 2018

District	Name of Rivers	Locations	Year	pH	Conductivity (µS/cm)	Turbidity (NTU)	Flouride (mg/l)	Iron. (µg/L)	Total Coliform (MPN/100)
East Khasi Hills	Dreamland Spring	Police Bazar, Shillong	2018	5.7	255.0	2.9	0.065	120.0	82
	Mawpdang Spring	Shillong		5.8	281.0	3.1	0.065	130.0	21
	Wah-U-Dkhar	Sohra		6.2	109.5	1.9	0.055	180.0	7
West Khasi Hills	Mawthadrishan Well	Markasa		6.6	51.5	2.8	0.06	140.0	15
South West Khasi Hills	Jakrem, Hot Spring	Jakrem		9.3	357.5	2.6	21.0	110.0	11
Ri - Bhoi	Narbong Well	Byrnihat		6.1	109.5	2.3	0.055	120.0	23
Jaintia Hills	Umsahep Hot Spring	Shangpung		5.1	160.0	1.9	0.065	150.0	8

6.1.3 Water Quality Monitoring during Idol Immersion

The Meghalaya State Pollution Control Board, Shillong, conducted water quality monitoring before and after puja festival of three immersion ghats in the State viz. (i) Polo immersion site, Shillong, located along the River Umkhrah (ii) Babupara immersion site, Tura, located along the Babupara-Rongkhon River and (iii) SyntuKsiar (Lynterarchaka) immersion site, Jowai, located along the River Myntdu. The monitoring was conducted in order to assess the environmental impact due to such immersion.



**CROWDS THROUGH THE
IMMERSION SITE AT POLO,
SHILLONG ON IMMERSION DAY,
30TH SEPTEMBER 2018**

**SAMPLING OF WATER FROM THE
MYNTDU RIVER AT SYNTU KSIAR
JOWAI ON 30TH SEPTEMBER 2018**



**SAMPLING OF WATER FROM THE
BABUPARA-RONGKHON RIVER
ON 26TH SEPTEMBER 2018**



TABLE 1: WATER QUALITY DATA (POLO) OF RIVER WAH UMKHRAH DURING PRE-IMMERSSION, IMMERSION & POST-IMMERSION DAY, KALI PUJA FESTIVAL 2018

Parameters	Umkhrah River (Upstream)			Umkhrah River (Mid-stream)			Umkhrah River (Downstream)		
	Pre Idol Immersion 15.10.2018	Idol Immersion 20.10.2018	Post Idol Immersion 23.10.2018	Pre Idol Immersion 15.10.2018	Idol Immersion 20.10.2018	Post Idol Immersion 23.10.2018	Pre Idol Immersion 15.10.2018	Idol Immersion 20.10.2018	Post Idol Immersion 23.10.2018
pH	7.1	7.5	7.5	7.2	7.1	7.7	7.0	7.2	7.6
Conductivity (µmho/cm)	247.0	308.0	255.0	257.0	312.0	258.0	248.0	311.0	257.0
Turbidity (NTU)	5.9	10.6	14.4	7.0	25.6	17.2	6.0	11.8	9.8
Total Suspended Solids (mg/l)	9.0	14.0	24.0	15.0	35.0	25.0	10.0	24.0	25.0
Total Dissolved Solids (mg/l)	170.0	212.0	178.0	177.0	215.0	178.0	171.0	214.0	177.0
Total Hardness (mg/l)	90.0	98.0	94.0	90.0	92.0	92.0	100.0	90.0	98.0
Dissolved Oxygen (mg/l)	1.6	3.0	1.8	1.6	2.0	1.2	1.6	1.8	0.9
Biochemical Oxygen Demand (mg/l)	30.0	20.0	24.0	28.0	28.0	32.0	27.0	31.0	35.0
Chemical Oxygen Demand (mg/l)	60.0	40.0	40.0	50.0	50.0	60.0	65.0	55.0	70.0
Calcium as CaCO ₃ (mg/l)	60.0	60.0	56.0	58.0	56.0	56.0	58.0	56.0	60.0
Magnesium as CaCO ₃ (mg/l)	74.0	38.0	38.0	32.0	36.0	36.0	42.0	34.0	38.0
Copper (mg/l)	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
Lead (mg/l)	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
Chromium (mg/l)	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
Zinc (mg/l)	0.02	0.02	0.01	0.03	0.03	BDL*	0.07	BDL*	0.01

TABLE 2: WATER QUALITY DATA OF RIVER MYNTDU (LYTER ARCHAKA) DURING PRE-IMMERSSION, IMMERSION & POST-IMMERSION DAY, KALI PUJA FESTIVAL 2018

Parameters	Myntdu River (Upstream)			Myntdu River (Mid-stream)			Myntdu River (Downstream)		
	Pre Idol Immersion 15.10.2018	Idol Immersion 20.10.2018	Post Idol Immersion 23.10.2018	Pre Idol Immersion 15.10.2018	Idol Immersion 20.10.2018	Post Idol Immersion 23.10.2018	Pre Idol Immersion 15.10.2018	Idol Immersion 20.10.2018	Post Idol Immersion 23.10.2018
pH	7.2	7.1	6.9	6.9	7.2	7.1	6.8	7.2	7.1
Conductivity (µmho/cm)	44.0	57.0	53.0	43.0	59.0	55.0	39.0	50.0	52.0
Turbidity (NTU)	4.8	2.9	1.8	7.0	14.5	1.9	3.9	3.7	1.9
Total Suspended Solids (mg/l)	4.0	4.0	2.0	15.0	24.0	2.0	5.0	5.0	3.0
Total Dissolved Solids (mg/l)	30.0	39.0	36.0	30.0	41.0	38.0	27.0	35.0	36.0
Total Hardness (mg/l)	26.0	34.0	34.0	28.0	30.0	36.0	30.0	30.0	42.0
Dissolved Oxygen (mg/l)	6.2	6.0	6.9	6.0	5.8	6.8	5.9	5.9	6.4
Biochemical Oxygen Demand (mg/l)	2.3	1.8	1.7	2.3	2.0	1.8	2.5	2.0	1.8
Chemical Oxygen Demand (mg/l)	12.0	5.0	27.0	23.0	6.0	12.0	6.0	5.0	26.0
Calcium as CaCO ₃ (mg/l)	16.0	22.0	18.0	18.0	18.0	20.0	20.0	20.0	24.0
Magnesium as CaCO ₃ (mg/l)	10.0	12.0	16.0	10.0	12.0	16.0	10.0	10.0	18.0
Copper (mg/l)	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
Lead (mg/l)	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
Chromium (mg/l)	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
Zinc (mg/l)	0.08	0.02	BDL*	0.07	0.07	BDL*	0.02	0.09	BDL*

TABLE 3: WATER QUALITY DATA OF RIVER BABUPARA-RONGKHON DURING PRE-IMMERSSION, IMMERSION & POST-IMMERSION DAY, KALI PUJA FESTIVAL 2018

Parameters	Ganol River (Upstream)			Ganol River (Mid-stream)			Ganol River (Downstream)		
	Pre Idol Immersion	Idol Immersion	Post Idol Immersion	Pre Idol Immersion	Idol Immersion	Post Idol Immersion	Pre Idol Immersion	Idol Immersion	Post Idol Immersion
	15.10.2018	20.10.2018	23.10.2018	15.10.2018	20.10.2018	23.10.2018	15.10.2018	20.10.2018	23.10.2018
pH	7.8	7.7	7.9	7.6	7.6	7.8	7.7	7.6	7.9
Conductivity (µmho/cm)	119.0	122.0	123.0	124.0	125.0	125.0	122.0	123.0	127.0
Turbidity (NTU)	17.1	17.8	9.8	18.5	20.8	10.5	13.2	17.4	8.9
Total Suspended Solids (mg/l)	19.0	20.0	20.0	20.0	26.0	16.0	19.0	21.0	19.0
Total Dissolved Solids (mg/l)	82.0	84.0	85.0	85.0	86.0	86.0	84.0	85.0	88.0
Total Hardness (mg/l)	68.0	60.0	62.0	68.0	70.0	58.0	70.0	62.0	60.0
Dissolved Oxygen (mg/l)	8.0	8.3	8.0	8.2	7.6	7.9	8.4	8.4	8.1
Biochemical Oxygen Demand (mg/l)	1.2	1.6	1.4	1.2	1.7	1.5	1.4	1.5	1.5
Chemical Oxygen Demand (mg/l)	7.0	15.0	7.0	10.0	12.0	13.0	4.0	16.0	8.0
Calcium as CaCO ₃ (mg/l)	36.0	32.0	34.0	36.0	38.0	30.0	38.0	34.0	32.0
Magnesium as CaCO ₃ (mg/l)	32.0	28.0	28.0	32.0	32.0	28.0	32.0	28.0	28.0
Copper (mg/l)	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *
Lead (mg/l)	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *
Chromium (mg/l)	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *	BDL *
Zinc (mg/l)	0.02	0.07	0.05	0.05	0.05	0.07	0.05	0.07	0.06

The water quality characteristics (**Table 1, Table 2 & Table 3**) indicated that there was no deterioration of the water quality of the above mentioned rivers/streams as a result of the immersion of idols in these water bodies.

6.1.4 Water Quality Monitoring under Board's Programme:

The Board had also carried out the monitoring of the water quality of other water bodies in the State which were used for different purposes and subjected to different types of pollution. Based on the monitoring, the following report was published by the Board.

a) **A Report on The Water Quality of Kynshi River & Rilang River at Ranikor, South West Khasi Hills District:**

The monitoring was carried during 3rd April 2018 to find out the cause of fish death. As per the assessment, no specific chemical at level that would be expected to cause the fish death has been observed.

6.1.5 Industrial Monitoring:

The Meghalaya State Pollution Control Board also carried out the monitoring of effluent/waste water generated from the industrial units operating in the State. 5(Five) such samples were collected and analyzed during the year.

6.1.6 Monitoring of water bodies on account of NGT order:

A total of 27 samples were collected and analyzed from the water bodies located in coal mining areas.

6.1.7 Monitoring of water bodies on account of High Court Order:

Based on the High Court Order, the Board had carried out the monitoring of the water quality of Umran River, PHED drinking water treatment plant – Nongpoh and filtration unit of petrol pump (Bharat Petroleum Corporation Ltd.) at Umran diary on monthly basis.

6.1.8 Analysis of water bodies received from Government Departments, Private Agencies and Public:

In addition to the regular programme, the Board was also engaged in analyzing water samples received from Government Departments, Private Agencies and Public. A total of 380 samples were analyzed during the year.

CHAPTER VII

NOISE LEVEL MONITORING

7.1 AMBIENT NOISE LEVEL DURING IDOL IMMERSION, 2018

The ambient noise level monitoring was conducted on the 19th of October, 2018 (day of immersion) at the respective immersion sites in Shillong, Tura and Jowai in order to monitor the level of noise during the occasion. The noise level was recorded for 1 hour duration wherein Leq readings were monitored for every half-hour interval. The levels recorded during the occasion at the respective immersion sites in Shillong, Tura and Jowai is given in **Table 7.1.1**, **Table 7.1.2** and **Table 7.1.3** below.

Table 7.1.1: Ambient Noise Level during IDOL IMMERSION, 2018 in Shillong

Location A	River Umkhrah Immersion Site, Polo, Shillong	
Time duration	Leq dB(A)	Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)
11:35 Hrs. to 12:05 Hrs.	71.0	55.0
12:05 Hrs. to 12:35 Hrs.	73.2	55.0

The above table (**Table 7.2.1**) revealed that the ambient noise level at the immersion ghat along the river Umkhrah at Polo, Shillong, monitored on the 19th of October, 2018, was high.

The levels recorded at every half-hourly interval from the time duration of 11:35 Hrs. (11:35 am) to 12:05 Hrs. (12:05 pm) and 12:05 Hrs. (12:05 pm) to 12:35 Hrs. (12:35 pm) showed that the level exceeded the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area) during every half-hourly monitored time interval.

It was also observed that the highest level of 73.2 Leq dB(A) recorded from 12:05 Hrs. (12:05 pm) to 12:35 Hrs. (12:35 pm) exceeded the same standard by more than 18 decibels.

The noise, as observed on the above day and duration of monitoring, was due to various activities at the immersion ghat/site viz. shouts of celebration, beating of drums, singing and playing of musical instruments etc. during the immersion process.

Table 7.1.2: Ambient Noise Level during IDOL IMMERSION, 2018 in Tura

Location B	River Babupara-Rongkhon Immersion Site, Babupara, Tura	
Time duration	Leq dB(A)	Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)
11:15 Hrs. to 11:45 Hrs.	71.1	55.0
11:45 Hrs. to 12:15 Hrs.	69.6	55.0

The above table (**Table 7.1.2**) revealed that the ambient noise level at the immersion ghat along the river Babupara-Rongkhon at Babupara, Tura, monitored on the 19th of October, 2018, was high.

The levels recorded at every half-hourly interval from the time duration of 11:15 Hrs. (11:15 am) to 11:45 Hrs. (11:45 am) and 11:45 Hrs. (11:45 am) to 12:15 Hrs. (12:15 pm) showed that the level obtained exceeded the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area) during every monitored half-hourly time interval.

It was also observed that the highest level of 71.1 Leq dB(A) recorded from 11:15 Hrs. (11:15 am) to 11:45 Hrs. (11:45 am) exceeded the same standard by more than 16 decibels.

The noise, as observed on the above day and duration of monitoring, was due to festive activities during the immersion process.

Table 7.1.3: Ambient Noise Level during IDOL IMMERSION, 2018 in Jowai

Location: C	River Myntdu Immersion Site, Syntu Ksiar, Jowai	
Time duration	Leq dB(A)	Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)
14:35 Hrs. to 15:05 Hrs.	63.4	55.0
15:05 Hrs. to 15:35 Hrs.	51.9	55.0

The above table (**Table 7.1.3**) revealed that the ambient noise level at the immersion ghat along the river Myntdu at Lynter Archaka, Syntu Ksiar, Jowai, monitored on the 19th of October, 2018, was slightly on the higher side only during the first half-hourly time interval.

The levels recorded during the half-hourly interval from the time duration of 14:35 Hrs. (2:35 pm) to 15:05 Hrs. (3:05 pm) revealed that the levels obtained exceeded the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area). However, the level recorded during the half-hourly interval from 15:05 Hrs. (3:05 pm) to 15:35 Hrs. (3:35 pm) showed that the level obtained was well within the same standard.

The higher level of noise observed during the first half-hourly monitored interval was mainly due to festive activities during the immersion process at the ghat located along river Myntdu.

7.2 CHRISTMAS & NEW YEAR FESTIVALS, 2018

Christmas is celebrated at the end of a year and so is the New Year festival. People celebrated these festivals with much pomp and gaiety. Many celebrate the New Year by bursting firecrackers and sparklers and many-a-times it is the same during Christmas though on a lesser scale. Since this kind of activity contributed to air pollution it was therefore imperative upon the Board to monitor the air and noise level quality during such period.

With this objective, the Meghalaya State Pollution Control Board, Shillong, conducted Ambient Noise Level during Christmas and New Year festival on the 24th to 25th December, 2018 and the 31st December, 2018 to 1st January, 2019 respectively. This was also in pursuance to the interim directions of the Hon'ble Supreme Court.

Area Monitored

Shillong, the selected city for conducting the ambient noise level survey during the two festive periods is Meghalaya's largest as well as its capital city and has a sizeable population celebrating both festivals.

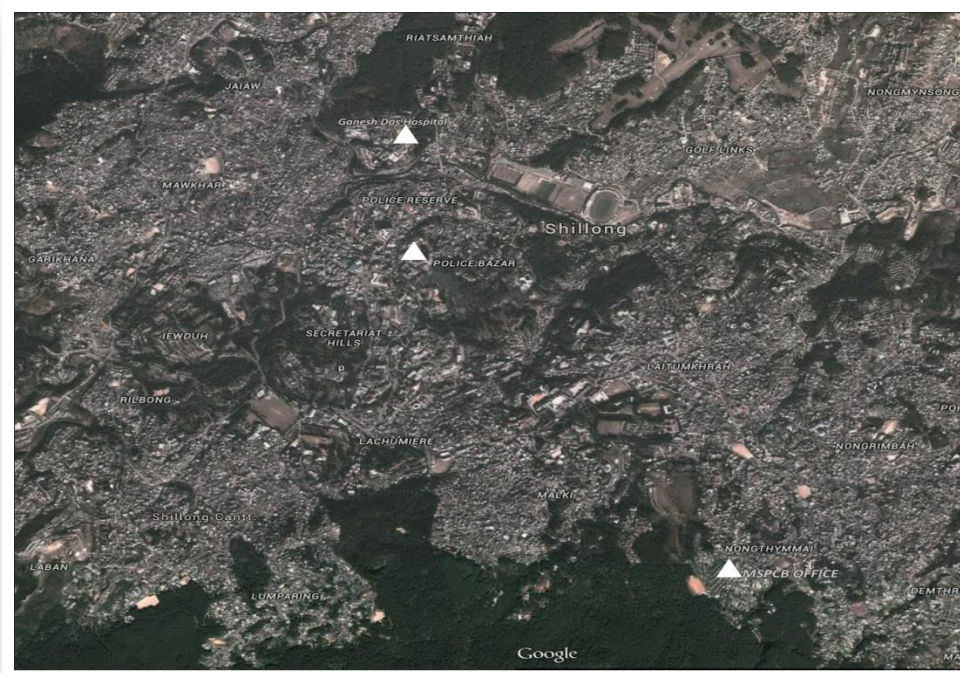
The location selected was:

Police Bazar (Meghalaya Legislative Assembly office's premises), a commercial area.


Methodology

The monitoring team was equipped with Envirotech SLM 109 sound level meter. The noise levels were measured in dB (A) i.e. the level of sound in decibels on scale - A as per the human ear sensitivity requirements. The result was expressed in Lmin, Lmax and Leq, wherein Lmin indicates the minimum value of the sound level in decibels and Lmax the maximum value of sound level in decibels occurring during the single event and Leq denotes the A weighted energy mean of the noise level averaged over the measurement period. The noise level was monitored for continuous 6 hours duration i.e. from 20:00 hours (8:00 P.M.) to 02:00 hours (2:00 A.M.) where Lmin, Lmax and Leq readings were recorded for every hourly interval.

MONITORING LOCATION



Map showing the monitoring location in Shillong city

INDEX:  Sampling Location

Description of monitoring site

Police Bazar: This location is a commercial area and the major shopping and business area of the city. People from all over the city as well as the State and even tourists from outside the state and country frequent here for their business and shopping activities. The main noise sources here are vehicular traffic, and noise caused by pedestrians, shoppers and other business activities. During Christmas and New Year, residents and visitors including tourists visit this place to celebrate these festivals with enthusiasm and therefore the location was a suitable site for the above study.

Data /Observations

Ambient Noise Level Quality during Christmas and New Year festival 2018:

Table 1

Location: Police Bazar	Christmas festival period (24.12.2018 to 25.12.2018)			New Year festival period (31.12.2018 to 01.01.2019)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
20:00 to 21:00 Hr.	52.3	63.7	59.2	57.3	78.6	69.5
21:00 to 22:00 Hr.	50.5	66.3	54.5	59.3	80.4	61.6
22:00 to 23:00 Hr.	51.6	68.6	62.6	56.9	75.3	60.2
23:00 to 24:00 Hr.	53.6	69.7	60.3	58.7	75.6	62.4
24:00 to 01:00 Hr.	54.2	70.3	68.7	59.5	73.6	68.6
01:00 to 02:00 Hr.	53.9	68.2	55.9	55.7	71.6	65.9

Interpretation of Noise data/results

Police Bazar (Meghalaya Legislative Assembly office's premises)

It is observed from Table 1 above that the noise level on 24th December, 2018 was within the day time standard limit of 65.0 dB (A) Leq (for a commercial area) from the time duration of 20:00 Hrs.(8:00 pm) to 22:00 Hrs.(10:00 pm) while it was above the standard limit of 55.0 dB (A) Leq (for night time) from 22:00 Hrs.(10:00 pm) to 24:00 Hrs.(12:00 midnight). It was also observed that the night time noise level from 24:00 Hrs. (12:00 midnight) to 02:00 Hrs. (02:00 am) falling in the first two hours of the 25th of December, 2018 exceeds the night time standard limit of 55.0 dB (A) Leq. The higher level of noise monitored was mainly due to traffic noise and various celebration activities going on in Police Bazar junction and not due to noise from firecrackers alone.

On the 31st of December, 2018 it was observed that there was an overall increase in the noise level at all-time intervals during day as well as night time right from 20:00 Hrs.(8:00 pm) up to 24:00 Hrs. (12:00 midnight). Same was observed to be the case on the 1st of January, 2019 during the early hours from 24:00 Hrs. (12:00 midnight) to 02:00 Hrs. (02:00 am) where the night time standard limit of 55.0 dB (A) Leq was exceeded. On this occasion, firecrackers as well as other activities forming part of the celebration contributed to the overall recorded noise level with a major contribution being the bursting and burning of crackers and sparklers.

Conclusion

From the findings of the study above, it was observed that the ambient noise levels were slightly on the higher side during Christmas while it was markedly high during New Year. The bursting of firecrackers and burning of sparklers especially during New Year was a major contributor to the higher noise level monitored on the occasion resulting in an overall increase in the noise level scenario at the monitored location.

CHAPTER VIII

ENVIRONMENTAL AWARENESS

8.1.0 World Environment Day 2018:

Water quality & Ambient Air quality monitoring in selected localities of Mawlai, East Khasi Hills District.

The Meghalaya State Pollution Control Board conducted Water quality monitoring of drinking water sources and carried out Ambient Air quality monitoring on the 22nd- 23rd & 30th- 31st May 2018 respectively, in selected localities of Mawlai, East Khasi Hills District, to assess the water quality of drinking water sources and the ambient air quality in areas around Mawlai, Shillong, as part of celebration of World Environment Day 2018 organised by the Khasi Students' Union, Mawlai Circle.

Ambient air quality monitoring was performed as per methods prescribed by CPCB. The parameters selected for the purpose of monitoring the ambient air quality were, Particulate Matter or PM₁₀, Sulphur dioxide (SO₂), and Nitrogen dioxide (NO₂). Monitoring was carried out for 24 hours (4 hourly sampling for gaseous pollutants & 8 hourly sampling for particulate matter). The monitoring of meteorological parameters such as wind speed and direction, relative humidity and temperature was also integrated with the monitoring of the air quality.

Monitoring of Drinking Water Sources and Ambient Air Quality in selected localities of Mawlai area.

Water Quality Of Drinking Water Sources

Water samples were collected from the following sources located in different localities of Mawlai on the 22nd & 23rd May 2018

1. Public Platform at Mawlai Mawiong Umjapung.
2. D.T.W. at Mawlai Nongkwar Block 13.
3. D.T.W. at Mawlai Nongkwar Block 8
4. Tap water from Mawlai Nongkwar Block 5 (Residence of Mrs. S. M. Warbah).
5. Public Platform (Opposite N.E.H.U. Gate no.5) Mawlai Umshing

The samples collected was analyzed for drinking water quality parameters viz. pH, Conductivity, Turbidity, Alkalinity, Chloride, Total Hardness, Nitrate-Nitrogen, Iron and Total Coliform at the Central Laboratory of MSPCB. The analysis was carried out in accordance with standard procedure (APHA, AWE AWWA - 22nd Edition). The parameters which were analyzed were shown in the test report.

Based on the analysis data (Test report enclosed) the following observations were made:

- **pH:** The pH of all the samples was found to be in the range of 6.6 to 7.5 well within the desirable limit (6.5-8.5) of Drinking Water Standard
- **Turbidity:** The turbidity recorded in all the samples was found to be above the limit (1.0 N.T.U) of Drinking Water Standard. The values ranged between 1.1- 2.2 NTU.
- **Chloride:** The levels of chlorides in the samples were well within the prescribed limit (250mg/L) at all sources. The value observed was in the range between 12.0 – 29.0 mg/l.
- **Alkalinity:** Total alkalinity was well within the prescribed limit (200mg/L) at all sources. The value of alkalinity ranged from 12.0 – 70.0 mg/l.
- **Total Hardness:** Total hardness of all the sources were well within prescribed limit (300mg/L). Total Hardness in water samples ranges from 38.0 – 66.0 mg/l.
- **Nitrate Nitrogen:** The concentration of Nitrate-Nitrogen was within the limit (45.0mg/l) of Drinking Water Standard. The concentration of Nitrate – Nitrogen varies between 1.7 – 8.8 mg/l.
- **Iron:** The concentration of Iron was found to be within the desirable limit (0.3mg/l) prescribed for drinking water. The Iron content ranged between 0.1 – 0.18 mg/l.
- **Total Coliform:** Total Coliform count was detected in all the sampling location.

Conclusion:

The results regarding the quality of the drinking water sources indicated that Turbidity level & Total coliform count was slightly above the desirable limits of Drinking Water Standards whereas the other parameters tested conform to the Drinking Water Standard in all the sampling locations. It was therefore recommended that the water be filtered and boiled for drinking purposes.

Ambient Air Quality Monitoring

Ambient air quality monitoring was conducted at the following locations in Mawlai area. The parameters monitored were, Particulate Matter or PM₁₀, Sulphur dioxide (SO₂), and Nitrogen dioxide (NO₂). Monitoring was carried out for 24 hours (4 hourly sampling for gaseous pollutants & 8 hourly sampling for particulate matter). Meteorological parameter such as wind speed and direction, relative humidity and temperature was also integrated with the monitoring of the air quality monitoring performed as per protocol provided by CPCB, Delhi.

Selected sampling locations were as follows:

1. Bye Lane, Mawiong, NH-40, Shillong (Sampling Location 1).
2. Mawlai Petrol Pump, NH-40, Shillong (Sampling Location 2).
3. Mawlai Nonglum, Shillong (Sampling Location 3).

Observations and Findings:

1. Bye Lane, Mawiong, NH-40, Shillong (Sampling Location 1)

The terrace in the building of Smt. W. Jitem, Mawiong, located 10m (approx.) from the NH 40 was selected for sampling.

The 24 hours average concentration of Particulate Matter (PM₁₀), Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) was observed to be within the National Ambient Air Quality Standards (Table 1.0).



Ambient Air quality monitoring in Mawiong

2. Mawlai Petrol Pump, NH 40, Shillong (Sampling Location 2)

The premises in the office of M/S Stanley Roy Construction located in the busy junction in Mawlai Petrol pump which was 5m (approx.) from the busy NH-40 was selected for sampling.

The 24 hours average concentration of Particulate Matter (PM₁₀) recorded was 123.1 µg/m³ which was above the prescribed limits as per the National Ambient Air Quality Standards (Table 1.0).



Ambient Air quality monitoring in Mawlai Petrol Pump.

High PM₁₀ concentration at this location may be due to exhaust emission from vehicles and dust arising from movement of vehicles, as the station was in close proximity to the NH 40. Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) was observed to be within the National Ambient Air Quality Standards (Table 1.0)

3. Mawlai Nonglum, Shillong (Sampling Location 3)

The premises in the residence of Smt. B. Khyriem, Mawlai Nonglum, located 20m (approx.) from the NH-40, was selected for sampling. The location was categorized as a residential area.

The 24 hours average concentration of Particulate Matter (PM₁₀), Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) was observed to be within the National Ambient Air Quality Standards (Table 1.0).



*Ambient Air quality monitoring in
Mawlai Nonglum*

Table 1.0: Ambient air quality monitored at Mawlai area

Location	Sampling Location	Parameters (24 hours average)			Permissible Limits (24 hours average)	
		PM ₁₀ ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	Pollutants	Concentrations ($\mu\text{g}/\text{m}^3$)
Mawlai Mawiong	Terrace of the Residence of Smti. W. Jitem	70.1	5.4	15.0	PM ₁₀	100
					SO ₂	80
					NO ₂	80
					<i>Permissible limits of National Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th Nov. 2009.</i>	
Mawlai Petrol Pump	Premises of O/o M/s Stanley Roy Construction	123.1	6.5	23.4		
Mawlai Nonglum	Premises of Residence of Smti. B. Khyriem	72.2	5.3	18.0		

Conclusion:

The findings on the assessment of air quality in selected localities of Mawlai area conducted by the Board revealed that the concentrations of Particulate Matter (PM₁₀), Sulphur Dioxide (SO₂), Nitrogen dioxide (NO₂) were found to be within the prescribed standards in all the sampling locations except the location in Mawlai Petrol Pump where the concentration of PM₁₀ was found to be above the prescribed limits of NAAQS. The high concentration of PM₁₀ in Mawlai Petrol Pump may perhaps be due to the exhaust emission from vehicles and dust arising from movement of vehicles, as the sampling location was in close proximity to the busy NH-40.

Vehicular Emission Testing Camp at Syrpai Automotive, Mahindra & Mahindra Workshop, Mawiongrim, Shillong, on the 5th June 2018.

As part of celebrating the World Environment Day 2018, Syrpai Automotive, which was the dealer of Mahindra & Mahindra vehicles in Shillong organized a 1(one) day ‘Vehicular Emission Testing Camp’ at it’s workshop, located at Mawiongrim, Shillong, on the 5th June 2018 in collaboration with the office of the Meghalaya State Pollution Control Board, “Arden”, Lumpyngngad, Shillong.

During the camp, a total number of 10 (ten) nos. of Diesel driven vehicles were tested of which all were found to be within the emission standard limits (Table 1).

The vehicles which were complying to the emission standards were issued with a ‘Green Certificate’ with a validity of 6 (six) months from the date of issue. Emission standards for diesel driven vehicles are indicated in Table 2



Emission test of diesel driven vehicles in progress at Syrpai Automotive, Mawiongrim

Table 1: Nos. of Diesel Driven Vehicles Tested

Location	Type of Vehicles tested	Total nos. of vehicles tested	Nos. of Vehicles within Permissible Limit	Nos. of Vehicles above Permissible Limit	Percentage of Vehicles within Permissible Limit	Percentage of Vehicles above Permissible Limit
Syrpai Automotive, Mawiong, Shillong.	Diesel Driven	10	10	-	100	-

Table 2: Smoke Density for all Diesel driven vehicles

Method of Test	Maximum Smoke Density	
	Light Absorption Co-efficient (l/m)	Hartidge Smoke Unit (HSU)
Free acceleration for turbo charged engine and naturally aspirated engine	2.45	65

Source: Central Motor Vehicles Amendment Rules, 1999.

8.1.1 Diwali Festival 2018

“Diwali” or “Deepawali”, the festival of lights, is a grand occasion in India and so is the celebration that marks this grand day. On this festive occasion, the Indian sky is lit up with sparks and lights of different hues and colors while down below, lamps, colored lightings and decorations adorn the homes of many people celebrating this festival. On this occasion, people observing it, celebrate the triumph of good over evil. And this is celebrated by bursting crackers, burning of sparklers, beating of drums and playing of musical instruments etc.

However, sad to say, accompanying the lights and colors is the noise that is emitted during the occasion caused by the burning and bursting of crackers and sparklers etc. thus raising the overall ambient noise level in the environment as well as causes an increase in air pollution. This therefore calls for a monitoring of the ambient noise level as well as the air quality at a place in order to assess the level of pollution caused by such celebration.

With this objective, the Meghalaya State Pollution Control Board, Shillong, conducted the Ambient Noise Level and Air Quality monitoring before, on Deepawali day and after, from the 31st of October to the 14th of November, 2018 in pursuance to the interim directions of the Hon’ble Supreme Court.

AREA MONITORED

Shillong, the selected city for conducting the ambient noise level and air quality survey during the festival period is Meghalaya’s largest as well as its capital city and has a sizeable population celebrating the festival.

Three locations selected within the city were:

- (i) Lumpynggad (Location A - Meghalaya State Pollution Control Board's premises), a residential area.
- (ii) Police Bazar (Location B - Meghalaya Legislative Assembly office's premises), a commercial area.
- (iii) Lawmali (Location C - Ganesh Das Hospital premises), a silence zone.

Statistical and physical description of the city and the monitored areas is furnished in the following paragraphs entitled 'CITY' and 'MONITORING LOCATIONS' (as per Central pollution Control Board's prescribed format).

METHODOLOGY

The monitoring was conducted from the 31st of October to the 14th of November, 2018 whereby pre-Deepawali monitoring was taken as one week before the 7th of November (Diwali day), 2018, and post-Deepawali monitoring one week after the mentioned day. The monitoring methodology was as per the Protocol specified by Central Pollution Control Board, Delhi.

The monitoring team was equipped with Larson-Davis DSP 80 and Envirotech SLM 109, Sound level meters. The noise levels were measured in dB (A) i.e. the level of sound in decibels on scale - A as per the human ear sensitivity requirements. The result was expressed in Lmin, Lmax and Leq, wherein Lmin indicates the minimum value of the sound level in decibels and Lmax the maximum value of sound level in decibels occurring during the single event and Leq denotes the A weighted energy mean of the noise level averaged over the measurement period. The noise level was monitored for continuous 6 hours duration i.e. from 18:00 hours (6:00 P.M.) to 24:00 hours (12:00 midnight) where Lmin, Lmax and Leq readings were recorded for every hourly interval.

The Ambient Air Quality was performed using Respirable Dust Sampler (Envirotech APM 460NL) and Ambient Fine Dust Sampler (PEM-ADS 2.5/10). The monitoring for SO₂, NO₂ and PM₁₀ was carried out for a sampling period of 24 hours (8 hrs. intervals for Particulate Matter & 4 hour's interval for gaseous pollutants). The results were expressed in µg/m³

City**Name SHILLONG, (State: Meghalaya)****Coordinates** : 25°34'00"N & 91°53'00"E**Elevation** : 1496m (4,908 feet) above sea level**Climate/Meteorology** : Yearly average minimum temperature is 13.6° C (56.5o F)
And maximum is 21.7° C (71.1° F) and the average yearly
Rainfall is 4,931 mm (194.13 inches).**Population** : 1, 43,229 as per 2011 census

Major Land use: According to the Master Plan of Shillong city, which includes the Shillong Agglomeration and 35 other surrounding villages covering an area of 174 Sq. km., the existing land-use has been classified into the categories viz. Residential, Commercial, Public, semi-Public (administrative, institutional, open space i.e. parks, playground and graveyards), Industrial, Security, Circulation (roads, parking lots, etc.), Vacant (areas with poor accessibility, steep slopes, etc.), Urban agriculture, Forests and water bodies.

Description of monitoring site

- (i) **Location A - Lumpyngngad:** Lumpyngngad is a residential area located in the outskirts of the city. Being a purely residential area, this location is basically a quiet place. There were no commercial complexes here and the main noise sources were vehicular traffic and construction activity. Here, there were a good number of residents celebrating the Deepawali festival and noise study in this area on a normal day and during the festival gives a good comparison of the noise scenario prior to and during the festival period.
- (ii) **Location B - Police Bazar:** This location is a commercial area and the major shopping and business area of the city. People from all over the city as well as the State and even tourists from outside the state and country frequent here for their business and shopping activities. The main noise sources here were vehicular traffic, and noise caused by pedestrians, shoppers and other business activities. The shop owners and residents of this area celebrate the Deepawali festival with much pomp and enthusiasm and therefore this place was a suitable location for the undergoing noise study.
- (iii) **Location C - Lawmali:** This station was located in the premises of the Ganesh Das Hospital, which was categorized as a silence zone. It is a Government hospital and one of the biggest in the city. The place was close to Polo and Jail Road, localities that have sizeable residents celebrating Deepawali. Therefore it was a suitable location for the undergoing noise study.

DATA /OBSERVATIONS NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2018

Table 1-A

Location:A	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	49.4	74.8	52.6	56.6	90.0	68.0
19:00 to 20:00 Hr.	55.6	79.7	62.1	50.3	94.2	67.6
20:00 to 21:00 Hr.	52.5	76.2	59.7	57.2	95.5	68.3
21:00 to 22:00 Hr.	51.2	74.9	59.5	62.5	90.7	68.8
22:00 to 23:00 Hr.	54.5	68.5	56.9	49.9	90.8	61.3
23:00 to 24:00 Hr.	50.6	63.6	54.8	54.2	81.6	56.8

Table 1-B

Location:B	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	59.0	81.7	63.8	62.1	105.6	71.9
19:00 to 20:00 Hr.	58.8	79.2	65.7	54.6	109.7	70.3
20:00 to 21:00 Hr.	57.8	79.0	63.0	60.8	101.6	74.1
21:00 to 22:00 Hr.	59.1	72.6	58.4	60.7	109.5	77.0
22:00 to 23:00 Hr.	55.6	70.8	58.8	61.2	101.7	78.1
23:00 to 24:00 Hr.	55.2	71.8	56.8	65.1	99.6	70.3

Table 1-C

Location: C	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	44.1	55.0	49.6	57.6	84.1	72.8
19:00 to 20:00 Hr.	45.8	51.7	48.0	65.8	94.8	71.1
20:00 to 21:00 Hr.	42.0	50.4	48.5	66.2	92.8	70.0
21:00 to 22:00 Hr.	43.1	62.1	45.2	68.2	93.1	69.8
22:00 to 23:00 Hr.	46.2	64.8	49.8	56.2	89.6	66.1
23:00 to 24:00 Hr.	46.5	64.3	48.2	49.6	82.6	58.6

INTERPRETATION OF NOISE DATA/RESULTS

1. Location A - Lumpynggad (MSPCB's office premises)

It was observed from the Table 1-A (Location A - Lumpynggad), that the monitored ambient noise level on the 1st of November, 2018 (i.e.pre-Deepawali day), from 18:00 Hrs. (6:00 pm) to 22:00 Hrs.(10:00 pm), was within the ambient noise level standard (for residential areas) of 55.0 dB(A) Leq for day time from 18:00 Hrs. (6:00 pm) to 19:00 Hrs.

(07:00 pm) while it was above the same standard from 19:00 Hrs. (07:00 pm) to 22:00 Hrs. (10:00 pm). This was due to windy conditions on the particular day. It was also observed that the night time noise level from 22:00 Hrs. (10:00 pm) to 24:00 Hrs. (12:00 midnight) was above the night time ambient noise level standard of 45.0 dB (A) Leq as well. This can be attributed to the above same mentioned factor.

On the 7th of November, 2018 (i.e. Deepawali day), however, it was observed that there was an overall increase in the ambient noise level at the location where the average equivalent noise level (Leq) was found to be well above the ambient noise standard of 55.0 dB(A) Leq throughout the time duration from 18:00 Hrs. (6:00 pm) to 22:00 Hrs. (10:00 pm), which falls in the day time slot. In fact, the level was always above the 67 decibel range. It was also during this duration that the highest Leq level of 68.8 dB(A)Leq was recorded and that during the time slot from 21:00 Hrs.(9:00 pm) to 22:00 Hrs.(10:00 pm). This level was above the day time residential standard of 55.0 dB(A)Leq by more than 13 dB. During the night time, the levels measured were above the standard of 45.0 dB(A) Leq on both hourly intervals i.e from 22:00 Hr. (10:00 pm) to 23:00 Hr. (11:00 pm) and 23:00 Hr. (11:00 pm) to 24:00 Hr. (12:00 midnight).

2. Location B - Police Bazar (Meghalaya Legislative Assembly office's premises)

It was observed from Table 1-B (Location B - Police Bazar) that the noise level on the 1st of November, 2018 (i.e. pre-Deepawali day), was within the standard limit of 65.0 dB (A) Leq for day time except for the monitored interval from 19:00 Hrs. (7:00 pm) to 20:00 Hrs.(8:00 pm). However, the night time noise level was above the standard limit of 55.0 dB (A) Leq for night time (in a commercial area). The higher level of noise monitored was mainly due to vehicular traffic including noise due to honking.

On the 7th of November, 2018 (i.e. Deepawali day), however, it was observed that there was an overall increase in the noise level at all-time intervals during day as well as night time whereby the average equivalent noise level (Leq) was always beyond 70 dB at all time intervals. Here we see that the maximum average equivalent noise level measured throughout the entire monitoring was 78.1 dB(A) Leq, monitored during the timing from 22:00 Hrs.(10:00 pm) to 23:00 Hrs.(11:00 pm), a level that was higher than the night time noise level standard of 55.0 dB (A) Leq (for commercial area) by more than 23 dB.

3. Location C - Lawmali (Ganesh Das Hospital premises)

It was observed from the Table 1-C (Location C-Ganesh Das Hospital) that during daytime monitored timings from 18:00 Hrs. (6:00 pm) to 22:00 Hrs. (10:00 pm), the noise level on the 1st of November, 2018 (i.e. pre-Deepawali day), was well within the day time national standard limit (for Silence Zones) of 50.0 dB (A) Leq. While it was above the night time standard of 40.0 dB (A) Leq during the night watch. The observed higher level of sound monitored during this time slot was mainly due to vehicular traffic and other activities within the hospital campus.

On the 7th of November, 2018 (i.e. Deepawali day), however, it was observed that the overall average equivalent noise level (Leq) was comparatively much higher than that on pre-Deepawali day. For all timings from 18:00 Hrs. (6:00 pm) up to 24:00 Hrs. (12:00 midnight), the monitored sound level was well above the mentioned standard limits during day as well as night time. The highest level of noise recorded throughout the monitored time intervals during both day and night duration was 72.8 dB, a level recorded from 18:00 Hrs. (6:00 pm) to 19:00 Hrs. (7:00 pm) falling in the day slot.

Conclusion

From the findings of the study above, it was observed that the ambient noise levels were markedly higher on Deepawali day (i.e. 7th November, 2018) in comparison to that on a normal/pre-Deepawali day (i.e. 1st November, 2018). The bursting of firecrackers and burning of sparklers on Deepawali day was obviously the major contributor to the higher noise level monitored on the occasion. The data collected indicate that the increase in noise level varies from a few decibels to as high as 23 decibels and the resulting effect was an overall increase in the noise level scenario at the various locations.

**Table-1: Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018):
Data / Observations**

Name of location: Lumpyngngad, Shillong (Meghalaya State Pollution Control Board's Office Premises)														
Date	Regulatory Parameters							Proposed New Parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals / Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.18	2.0	4.5	35.4	--	BDL	BDL	BDL	--	--	--	--	--	--	--
01.11.18	2.0	4.5	41.0	--	BDL	BDL	BDL	--	--	--	--	--	--	--
02.11.18	2.0	4.5	30.7	--	BDL	BDL	BDL	--	--	--	--	--	--	--
03.11.18	2.0	4.5	27.2	--	BDL	BDL	BDL	--	--	--	--	--	--	--
04.11.18	2.0	4.5	24.0	--	BDL	BDL	BDL	--	--	--	--	--	--	--
05.11.18	2.0	4.5	28.4	--	BDL	BDL	BDL	--	--	--	--	--	--	--
06.11.18	2.0	4.5	30.2	--	BDL	BDL	BDL	--	--	--	--	--	--	--
07.11.18	2.0	10.7	61.7	--	BDL	BDL	BDL	--	--	--	--	--	--	--
08.11.18	2.0	10.5	45.4	--	BDL	BDL	BDL	--	--	--	--	--	--	--
09.11.18	2.0	4.5	24.2	--	BDL	BDL	BDL	--	--	--	--	--	--	--
10.11.18	2.0	4.5	32.5	--	BDL	BDL	BDL	--	--	--	--	--	--	--
11.11.18	2.0	4.5	36.2	--	BDL	BDL	BDL	--	--	--	--	--	--	--
12.11.18	2.0	4.5	27.7	--	BDL	BDL	BDL	--	--	--	--	--	--	--
13.11.18	2.0	4.5	35.1	--	BDL	BDL	BDL	--	--	--	--	--	--	--
14.11.18	2.0	4.5	34.5	--	BDL	BDL	BDL	--	--	--	--	--	--	--
* All values (24 hourly Avg.) are in µg/m ³														

**Table 2: Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018):
Data / Observations**

Name of location: Police Bazar, Shillong (Meghalaya Legislative Assembly Office's Premises)														
Date	Regulatory Parameters							Proposed New Parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals / Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.18	5.0	12.5	24.5	15.3	BDL	BDL	BDL	<0.02	<0.02	<0.008	<0.02	<0.02	<0.02	<0.02
01.11.18	4.7	11.8	23.0	14.1	BDL	BDL	BDL	<0.02	<0.02	<0.008	0.31	<0.02	0.04	<0.02
02.11.18	5.6	13.9	26.7	17.2	BDL	BDL	BDL	<0.02	<0.02	<0.008	<0.02	<0.02	<0.02	<0.02
03.11.18	4.5	14.8	21.6	16.0	BDL	BDL	BDL	<0.02	<0.02	<0.008	0.02	<0.02	<0.02	<0.02
04.11.18	5.2	11.4	30.2	14.1	BDL	BDL	BDL	<0.02	<0.02	<0.008	<0.02	<0.02	<0.02	<0.02
05.11.18	4.3	20.2	35.6	16.5	BDL	BDL	BDL	0.02	<0.02	<0.008	0.04	<0.02	0.06	<0.02
06.11.18	4.0	22.5	39.5	20.1	BDL	BDL	BDL	0.02	<0.02	<0.008	0.21	<0.02	<0.02	<0.02
07.11.18	16.7	20.8	81.1	47.5	0.16	BDL	BDL	0.25	<0.02	<0.008	7.91	<0.02	0.19	0.19
08.11.18	5.3	19.7	63.8	44.7	BDL	BDL	BDL	0.08	<0.02	<0.008	1.9	<0.02	<0.02	0.05
09.11.18	5.0	17.3	67.7	36.1	BDL	BDL	BDL	<0.02	<0.02	<0.008	0.18	<0.02	<0.02	<0.02
10.11.18	5.0	20.4	68.9	29.4	BDL	BDL	BDL	<0.02	<0.02	<0.008	<0.02	<0.02	<0.02	<0.02
11.11.18	5.1	15.0	63.0	31.9	BDL	BDL	BDL	<0.02	<0.02	<0.008	0.04	<0.02	<0.02	<0.02
12.11.18	4.6	17.5	67.8	37.0	BDL	BDL	BDL	<0.02	<0.02	<0.008	<0.02	<0.02	0.02	<0.02
13.11.18	4.8	17.4	64.0	36.7	BDL	BDL	BDL	0.03	0.13	<0.008	0.35	<0.02	0.59	0.15
14.11.18	5.0	17.5	59.3	24.2	BDL	BDL	BDL	<0.02	<0.02	<0.008	0.09	<0.02	<0.02	<0.02
* All values (24 hourly Avg.) are in µg/m ³														

**Table 3: Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018):
Data / Observations**

Name of location: Lawmali, Shillong (Ganesh Das Hospital Premises)														
Date	Regulatory Parameters							Proposed New Parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals / Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.18	7.9	13.5	39.7	-	BDL	BDL	BDL	--	--	--	--	--	--	--
01.11.18	8.8	14.9	36.9	-	BDL	BDL	BDL	--	--	--	--	--	--	--
02.11.18	7.4	12.7	42.2	-	BDL	BDL	BDL	--	--	--	--	--	--	--
03.11.18	7.6	13.4	44.9	-	BDL	BDL	BDL	--	--	--	--	--	--	--
04.11.18	6.8	12.7	48.1	-	BDL	BDL	BDL	--	--	--	--	--	--	--
05.11.18	4.2	13.3	49.2	-	BDL	BDL	BDL	--	--	--	--	--	--	--
06.11.18	8.1	10.6	55.3	-	BDL	BDL	BDL	--	--	--	--	--	--	--
07.11.18	9.6	17.5	79.1	-	BDL	BDL	BDL	--	--	--	--	--	--	--
08.11.18	5.6	13.3	64.3	-	BDL	BDL	BDL	--	--	--	--	--	--	--
09.11.18	4.8	10.9	48.3	-	BDL	BDL	BDL	--	--	--	--	--	--	--
10.11.18	5.7	9.7	44.1	-	BDL	BDL	BDL	--	--	--	--	--	--	--
11.11.18	4.6	10.5	40.1	-	BDL	BDL	BDL	--	--	--	--	--	--	--
12.11.18	5.3	11.8	42.2	-	BDL	BDL	BDL	--	--	--	--	--	--	--
13.11.18	6.5	10.6	41.5	-	BDL	BDL	BDL	--	--	--	--	--	--	--
14.11.18	5.1	11.2	37.4	-	BDL	BDL	BDL	--	--	--	--	--	--	--
* All values (24 hourly Avg.) are in µg/m ³														

Interpretation of Ambient Air Quality Data/Results

The findings of the monitoring results indicate that:

- (i) The concentrations of SO₂, NO₂ and PM₁₀ viz. Pb, Ni and As, at Lumpyngngad (the Meghalaya State Pollution Control Board's Premises, Table - 1) was found to be within the prescribed limits of National Ambient Air Quality Standards, on Deepawali day (i.e. the 7th November, 2018) as well as after the festival date throughout the monitored duration from 31st October to 14th November, 2018. However, it was observed that the concentration of NO₂ and PM₁₀ was found to be higher on Deepawali day (i.e. the 7th November, 2018) as compared to any other day before or after the festive occasion.
- (ii) The concentrations of SO₂, NO₂, PM₁₀ and Metal viz. Pb, Ni and As. (in PM₁₀), PM_{2.5} and Metal viz. Pb, Ni, As, Al, Ba, Fe, Sr (in PM_{2.5}) at Police Bazar (Meghalaya Legislative Assembly Premises Table - 2) was found to be within the prescribed limits of National Ambient Air Quality Standards, on Deepawali day (i.e. the 7th November, 2018) as well as after the festival date throughout the monitored duration from 31st October to 14th November, 2018. However, it was observed that the concentration of SO₂ and PM₁₀, PM_{2.5} and Pb (in PM₁₀) was found to be higher on Deepawali day (i.e. the 7th November, 2018) as compared to any other day before or after the festive occasion.
- (iii) The concentrations of SO₂, NO₂, PM₁₀ and Metal viz. Pb, Ni and As. at Lawmali (Ganesh Das Hospital Premises Table - 3) was found to be within the prescribed limits of National Ambient Air Quality Standards before, on Deepawali day (i.e. the 7th November, 2018) as well as after the festival date throughout the monitored duration from 31st October to 14th November, 2018. However, it was observed that the concentration of SO₂ and PM₁₀ was found to be higher on Deepawali day (i.e. the 7th November, 2018) as compared to any other day before or after the mentioned date.

CONCLUSION

The above findings shows that the higher concentration of monitored parameters like SO₂, NO₂, PM₁₀, PM_{2.5} and Pb observed on Deepawali Day as compared to other days may be due to emission of pollutants as a result of bursting and burning of fire crackers and sparklers on the festive occasion, i.e. the 7th of November, 2018. The emission of various chemicals constituents that make up the crackers/sparklers used during the festival period was the major cause resulting in the increase in concentration of the noted parameters mentioned above.

8.1.2 Awareness Programme

The officials of the Meghalaya State Pollution Control Board had attended various Awareness Programmes as resource persons organised by different Departments of Meghalaya for the year 2018-2019 which is as indicated in Table 8.1.1

AWARENESS PROGRAMME ATTENDED FOR THE YEAR 2018-2019

Sl. No.	Date	Awareness Programme on	Organised By	Boards official attending the programme
1	26 th April 2018	Solid and Plastic Waste Management at Conference Hall, KHADC	Khasi Hills Autonomous District Council, Shillong	Shri.W.R. Kharkrang, EE-1
2	6 th June 2018	Awareness Campaign on Solid and liquid Waste Management at BNRGSK Hall Mawsiatkhniam Village.	Office of the Block Development Officer, C& RD Block, Mawlai Mawtawar	Shri. J.F. Lamurong, AEE-II
3	13 th June 2018	Awareness Program at Khliehriat for promoting SC/ST entrepreneurs sponsored under National SC/ST Hub (NSSH) Scheme, Ministry of MSME, Government of India	District Commerce & Industries Centre, East Jaintia Hills District Khliehriat	Shri. S. Syiem, AEE-1
4	6 th July 2018	Awareness Campaign on Solid and liquid Waste Management at Mawtawar Village.	Office of the Block Development Officer, C& RD Block, Mawlai Mawtawar	Smti. Erisa Shilla, AEE-V
5	22 nd July 2018	Cleanliness, Waste Management and sanitation	Dorbar Shnong Lawjynriew	Shri.W.R. Kharkrang, EE-1
6	7 th September 2018	Science and Technology for Global Sustainability	Synod College Shillong	Shri.W.R. Kharkrang, EE-1
7	20 th September 2018	Swachh Bharat Programme	Meghalaya Women's Association, Shillong	Shri.W.R. Kharkrang, EE-1
8	2 nd October 2018	Wahumkhrah Task Force	Office of DC, EKHD	Shri.W.R. Kharkrang, EE-1
9	25 th January 2019	Faculty Development Programme - Environmental / pollution control and energy saving aspects	NEHU, Tura Venue: Tura Christian College, Tura	Smti. R. R. Marak , AEE-VI

CHAPTER IX

PRESENT STATE OF THE ENVIRONMENT, ENVIRONMENTAL PROBLEMS AND COUNTER MEASURES

One of the beautiful hill states of North Eastern Region of India is Meghalaya measuring 22,429 Sq. Kms. of area with 29,66,889 population as per 2011 Census. The State is rich in mineral resources which are found almost in its entire southern belt. Private mining activities were very unscientific and unplanned thus causing severe water pollution and environmental degradation. Small scale industries have been increasing into larger ones, for example, from small scale industries of stone crushing into large scale cement industries which gives rise to the ecological imbalance in the State. To curb these ever increasing problems, this Board therefore, applies different measures as per the Rules in force.

Pollution Control and Waste Management:

9.1: Solid Waste Management

Indiscriminate dumping of garbage, indiscriminate discharge or disposal of domestic sewage, trade effluents, urban solid wastes due to rapid population growth and fast urbanization also contributed to the ecological imbalance in the State. In this respect, the Meghalaya State Pollution Control Board has issued a direction to all Urban Local Bodies in the State to implement the provisions of the Solid Waste Management Rules, 2016 relating to development of infrastructure for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes (in areas within its jurisdiction) in accordance to the provisions and compliance criteria/standards as stipulated in the Solid Waste Management Rules, 2016.

9.2: Bio-Medical Waste Management:

Hospitals, Nursing Homes, Health Care Facilities has increased tremendously in recent years in the State and without proper methods of disposal of wastes from the health care units may pose great risk to human health and may create environmental pollution. Thus, prompting the government to implement new ways of scientific management of bio-medical wastes. The Board has issued direction to ensure that all health care units to apply for authorization in the prescribed Form II as required under Rule 10 of the Bio-Medical Waste Management Rules, 2016.

9.3: Consent Management:

Under the large-scale industrial sector cement plants falls under the 17 categories of highly polluting industries. The others were medium and small-scale industries such as power plants, lime calcination plants, ingot manufacturing and steel rolling mills, Ferro alloys manufacturing unit, stone crushing units, auto workshops, auto servicing units, D.G. Sets etc. Most of the lime calcination units were coal – fired and kilns were of traditional types (pajwa), which do not have even hood and chimney for venting out the smoke.

The Board was regulating the discharged of effluents and air emissions from industries through the issuance of Consents to Establish/Operate under Water & Air Acts. While issuing Consents, conditions were being imposed with regard to the effluent and the emission standards to which industries have to comply with. Conditions were also stipulated for setting up effluent treatment plants and/or installing of air pollution control systems whenever they were found necessary. The Board periodically collects and analyses effluent samples for verification of compliance to the consent conditions by industrial units. The industries were also instructed to ensure that pollution control systems, whenever necessary, were installed and commissioned within a stipulated period.

During the year **2018-2019** the number of industries/firms/units which the Board granted for Consent to Establish and Consent to Operate under the Water (Prevention& Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 is appended in the **Annexure-3** and **Annexure-4** respectively.

9.4: Water Quality Assessment:

The Meghalaya State Pollution Control Board (MSPCB) has established a network of Water Quality monitoring stations in the State. The present network comprises of 54 stations in the State under the National Water Monitoring Programme (NWMP). The monitoring network covers 20 Rivers, 4 Lakes, 7 springs/wells.

Out of the 54 stations, the following water bodies have been identified by CPCB as polluted stretched in the State of Meghalaya with respect to BOD level.

	<u>Name of River</u>	<u>District</u>
1.	Umkhrah&Umshyrpi Rivers	: East Khasi Hills District
2.	Kyrhukhla River, Lunar River (tributary of Lukha River) at Myndihati	: East Jaintia Hills District
3.	UmtrewByrnihat Rivers	: Ri-Bhoi District
4.	Myntdu (Jowai)	: West Jaintia Hills District
5.	Nanbah (Nongstoin)	: West Khasi Hills District

Measures taken:

1. The Board had informed the respective Deputy Commissioners of the district regarding the status of the water bodies with a request to take necessary steps to formulate action plan to control the pollution sources.
2. The respective Deputy Commissioners had taken up with the line Departments for formulation of action plan. The District Administration has also issued prohibitory orders against dumping of solid waste and liquid waste in the respective rivers/streams.

9.5: Air Quality Assessment:

The Meghalaya State Pollution Control Board was assessing the ambient air quality in the State over a period of time. A monitoring network with 10 (Ten) Ambient air quality-monitoring stations under National Air Monitoring Programme (NAMP) were placed to assess the changes in air quality.

Three criteria pollutants viz. PM₁₀ (Particulate Matter having an aerodynamic diameter less than or equal to 10 µm), Sulphur dioxide (SO₂) and Nitrogen dioxide (NO₂) were monitored for regular monitoring of air quality. The monitoring of meteorological parameters such as wind speed and direction, relative humidity and temperature were also integrated with the monitoring of air quality.

Air quality monitored during 2018 indicates that PM₁₀ levels exceeded the NAAQS (annual average) at 2 sampling stations viz (i) Export Promotion Industrial Park (EPIP), Byrnihat, (Stn-III- Industrial area) and (ii) Umiam Industrial Estate, Ri-Bhoi District (Industrial area).

High concentrations of Particulate Matter (PM_{10}) levels observed at Export Promotion Industrial Park (EPIP), Byrnihat, (Industrial area) and Umiam Industrial Estate, Ri-Bhoi District which may be attributable to the buildup of pollutants owing to emissions from industries located in the industrial area, dust generated due to movement of vehicles, natural dust, and construction activities.

Industrial Pollution Control:

1. The air pollution control devices installed should be properly maintained so as to ensure control of the Particulate Emission of the plant.
2. The ambient air quality within the Plant premises and surrounding areas should be maintained within the National Ambient Air Quality Standards.
3. The Board officials inspect the industries regularly to observe the measures taken for compliance of pollution control norms.
4. Appropriate preventive measures should be adopted to reduce fugitive emission so as to control the concentration of particulate matter in the ambient air.

CHAPTER X

ENVIRONMENTAL TRAINING / WORKSHOP / SEMINAR / CONFERENCE / SUMMIT

10.1 One of the important tools in the administrative system of the Board was the Environmental Training. The trainees of the Board who were equipped with different trainings were in turn imparting trainings with presentations to reputed Institutes/Organizations of the State.

The Environmental Training attended by the officials of the Board during the year 2018-2019 is shown in the following Table-10.1

Table-10.1: Environmental Training attended by the Board's Officials

Sl. No.	Date	Name of Officer/Staff	Training/Workshop/Seminar/Conference Programme & Place of Training
1	24 th -26 th April 2018	Shri S. Syiem, A.E.E. Shri M.N. Warbah, J.S.A.	Training Programme on "Industrial Pollution Management - Compliance & Enforcement practices in Sweden" Kolkata.
2	30 th April- 1 st May 2018	Dr.(Miss) B. Nongbri, Sr. Sc. Shri S. Swer, Sc. 'C'	North East Regional Conference on Earthquake & Landslide Mitigation-Building Disaster Resilience in North East India at Convention Centre, Shillong.
3	21 st May 2018	Shri C.P. Marak, IFS, Chairman Shri W.R. Kharkrang, EE.	Regional Conference on Environment & Forest Clearance, Shillong.
4	4 th June 2018	Shri C.P. Marak, IFS, Chairman Smti R.R. Marak, AEE Dr.(Miss) D. Tariang, JSA	State Environment Ministers' Conference 2018 at Vigyan Bhawan, New Delhi
5	23 rd -26 th July 2018	Smti J. Sawian, Sc. 'C' Smti M.N. Diengdoh, SSA	Training Programme on Laboratory Quality Management and Internal Audit & NABL Requirements, Hyderabad.
6	28 th -30 th August 2018	Smti E. Shilla, AEE Smti R.R. Marak, AEE	Training on Integrated Waste Management- Municipal Waste, Plastic Waste, Bio-Medical Waste, Bio Composting, Landfill Gas Management & Control and Waste to Energy, Bangalore
7	29 th -31 st August 2018	Shri A. Lyngdoh, JSA	Training Programme on Advance Instrumental Analytical Techniques, Nagpur.

Sl. No.	Date	Name of Officer/Staff	Training/Workshop/Seminar/Conference Programme & Place of Training
8	14 th -16 th October 2018	Shri J.F. Lamurong, AEE	Training Programme on Design, Operation, Maintenance and Performance of STP, CETP, CBMWTFs, Hyderabad.
9	30 th October 2018	Smti A.D. Synrem, JLO	E-Litigation, NIC Building, Shillong.
10	31 st October-3 rd November 2018	Shri J.F. Lamurong, AEE	Green Building Congress 2018, Hyderabad
11	12 th -13 th November 2018	Shri W.R. Kharkrang, EE Smti D. Syiemlieh, EE	Regional Workshop on Waste Management Rules, 2016, Bangalore
12	20 th -22 nd November 2018	Shri S. Nongrum, JSA	Training Program on Biological Monitoring, Analysis & Testing (Microbiology, Bio-Assay & Biomonitoring), SOPs, Data Interpretation and Quality Assurance, Chandigarh
13	4 th -5 th December 2018	Shri S. Swer, Sc. 'C'	Workshop on "Minamata Convention and Inventorization of Mercury in India" IIT Chennai
14	11 th -14 th December 2018	Smti E. Shilla, AEE Smti R.R. Marak, AEE	Training on Cleaner Brick Production, Alwar
15	12 th -14 th December 2018	Shri W.R. Kharkrang, EE	Training on Planning, Designing, Monitoring and Inspection of Waste Water Treatment Plants and APC Measures, Chennai
16	10 th -12 th January 2019	Dr. (Miss) B. Nongbri, Sr. Sc. Dr.(Miss) D. Tariang, JSA	Training Programme on "Green Chemistry and Cleaner Technology", Chennai.
17	21 st -23 rd January 2019	Shri M.N. Warbah, J.S.A.	Training on Monitoring of Notified Air Pollutants as per revised NAAQS 2009, Delhi
18	28 th -30 th January 2019	Shri M.S. Tiewsoh, AEE	Training on Carbon Sequestration Estimation and Nitrogen Footprint Assessment, Roorkee
19	4 th -6 th February 2019	Dr.(Miss) D. Tariang, JSA Smti H. Kharkongor, LA	Training on Environmental Data Interpretation, Compilation, Analysis, Presentation and Reporting- Hand-on Training and Case Study, Delhi
20	4 th -6 th February 2019	Smti A.D. Synrem, JLO	Training on Environmental Legislations, Interpretation, Enforcement, Legal and Statutory Requirements - Case Study, Bangalore

Sl. No.	Date	Name of Officer/Staff	Training/Workshop/Seminar/Conference Programme & Place of Training
21	11 th -13 th February 2019	Shri A. Lyngdoh, JSA	Training on Water Quality Monitoring of Surface Ground, Waste Water/Effluents, Data Interpretation and Quality Assurance, Roorkee
22	15 th February 2019	Shri W.R. Kharkrang, EE	National Conference on “Sustainable and Environment-friendly Industrial Production”, New Delhi.
23	15 th February 2019	Shri J. Kharshiing, JSA Shri S. Wanswett, LA	Seminar on “Land Erosion in Brahmaputra and Barak Basin-Causes & Remedies”, Guwahati
24	25 th February 2019	Smti J. Sawian, Sc. ‘C’ Dr.(Miss) D. Tariang, JSA	Workshop on “Polluted River Stretches-Preparation of Action Plan (for North Eastern States” Guwahati

CHAPTER XI

OTHER ACTIVITIES OF THE BOARD

11.0: Activities:

- Introduction of On-line monitoring of Emission & Effluent of the highly polluting industries falling under the 17 categories of the polluting industries as notified by the Government of India for which 13(thirteen) industries have installed opacity meters in their units.
- Implementation of Court orders issued on related matters.
- Implementation of Board's decision & resolution of Conference of PCB's relating to concerned activities.
- **Laboratory Development:** The Meghalaya State Pollution Control Board in performance of its function under Section 17 (2) of the Water (Prevention & Control of Pollution) Act, 1974 established its own Laboratory at Shillong in 1988 for the purpose of analysis of samples of water, waste water, air, soil and solid waste. The Board's Laboratory has also been recognized as **"State Water and Air Laboratory"** by the Government of Meghalaya. The Laboratory is presently equipped with sophisticated instruments like Atomic Absorption Spectrophotometer, Gas Chromatograph, Specific Ion Analyzer, UV-Spectrophotometer etc. besides the basic laboratory equipment/instruments required for analysis/monitoring of environmental parameters. The Laboratory of the Board also designated as State Referral Institute (SRI) for providing Technical advice to PHED in implementing the National Rural Drinking Water Quality Monitoring & Surveillance Programme (NRDWQM&SP).

In order to ensure analytical quality, the Central Laboratory, MSPCB has participated in Proficiency Testing programme/Analytical Quality Control exercise organized by CPCB, Delhi covering physico-chemical parameters and Inter Laboratory Comparison with accredited Laboratory for biological parameters.

- The Board had applied for NABL Accreditation of the Central Laboratory for chemical and biological testing discipline as per ISO/IEC/17025:2005 in accordance with ISO/IEC: 17025.

- The Board published a Report entitled “Study on causes of appearing Blue Colour and Fish Mortality in Lukha River” East Jaintia Hills District, Meghalaya during 2018-2019.
- The Meghalaya State Pollution Control Board along with the Institute of Bio-Resources and Sustainable Development (IBSD), Imphal (Ministry of Science & Technology), Social Forestry and Environment Wing, Forests and Environment Department, Government of Meghalaya and Vibgyor Media Solutions jointly organized the 3rd Edition Northeast Green Summit 2018 in Shillong from 24th to 26th October 2018.

Considering the rapid urbanization that was taking place in the cities and towns of the north-eastern region and its impact on the corresponding environment as experienced during the last decades, the third edition of the Northeast Green Summit 2018 focused on Urban Environment.

The opening ceremony was held on 24th October 2018 wherein the Water Resources Minister of the State of Meghalaya Shri. M Lyngdoh graced the occasion as the Chief Guest.



The summit saw a large participation ranging from Ministers of the North-eastern States; Environmentalists & Academicians from various parts of the Country; officials of the Forests & Environment Departments and State Pollution Control Boards from various States.

The different sessions held during the Summit were on Air Pollution with respect to urban areas; Water Pollution with regards to urban areas; Legal aspects, governance and policies with regard to urban pollution and environment; Recycling and managing waste and Urban Forestry, Planning and Development.

The summit had renowned personalities on the various fields giving their insight with regard to urban environment. To name a few, Shri J.S. Kamyotra (former Member Secretary, Central

Pollution Control Board), Prof. M.K. Ramesh, (NLSIU, Bangalore), Prof. Utpal Sharma (Retd. Director, CEPT, Ahmedabad), Prof S.K. Ghosh (Jadavpur University), Shri Ranjan Chatterjee (IAS, Retd. Chief Secretary to the Government of Meghalaya) P. Bineesha (Executive Director, International Institute of Waste Management, Bangalore).

The summit was concluded on 26th October 2018 wherein the Governor of Meghalaya graced the occasion followed by addressed from Shri H Dohling, Hon'ble Minister i/c Urban Affairs, Meghalaya and from Shri Jishnu Dev Varma, Hon'ble Deputy Chief Minister of Tripura.



11.1 WASTE MANAGEMENT

11.1.0 Bio-Medical Waste Management

The Meghalaya State Pollution Control Board was a Prescribed Authority for implementation and to carry out corresponding duties of the Bio-Medical Waste Management Rules, 2016 in the State of Meghalaya.

During the year, the Meghalaya State Pollution Control Board carried out the following duties in compliance to the Bio-Medical Waste Management Rules, 2016.

1. Compilation of data and submission of the same in annual report to the Central Pollution Control Board.
2. Grant and renewal, suspension or refusal or cancellation of authorization under these rules.
3. Monitoring of compliance of various provisions and conditions of authorization.
4. Action against health care facilities or common bio-medical waste treatment facilities for violation of these rules.
5. Organising training programmes for staff of health care facilities and common bio-medical waste treatment facilities on segregation, collection, storage, transportation, treatment and disposal of bio-medical wastes.

The Meghalaya State Pollution Control Board carries out inspection of Health Care Facilities from time to time during which issues regarding the implementation Bio-Medical Waste Rules are discussed.

11.1.1 Status of Health Care Facilities

The category of Health Care Facilities (HCFs) in the State of Meghalaya is shown in the table - 11.1.1

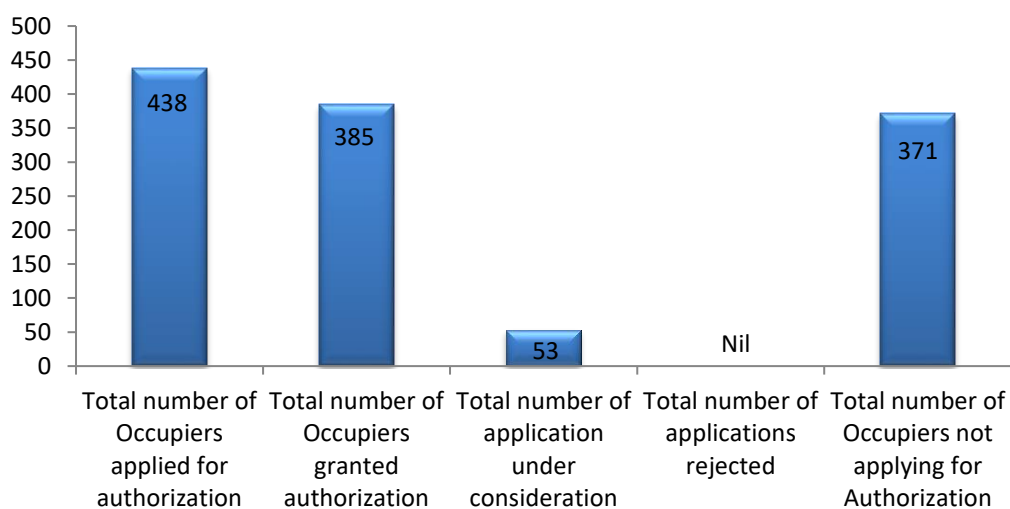
Table - 11.1.1 Number of HCFs Category-wise in the State as on March 2019

Sl. No.	Category of Health Care Facilities	Number
1	Bedded Hospitals and Nursing Homes (Bedded)	177
2	Dispensaries, Sub Centers, Urban Primary Health Centre	454
3	Veterinary Institutions	74
4	Pathological Laboratories	17
5	Clinical Establishment, Eye Care Centre	86
6	Research Institutions	1
	TOTAL	809

11.1.2 Status of Authorization under Bio-Medical Waste Management Rules, 2016

Status of authorization granted by the Board to the Health Care Facilities under Bio-Medical Waste Management Rules, 2016 is shown in the figure below:

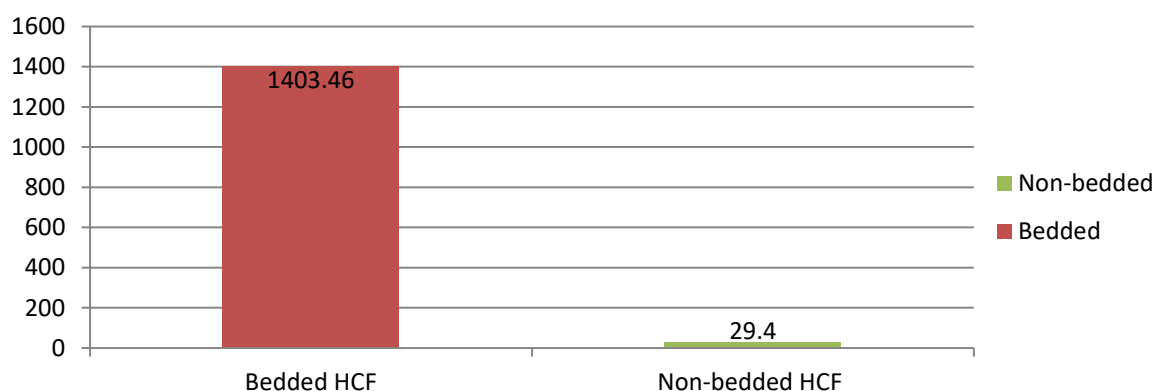
Fig. 11.1.2: Status of authorization granted by the Board



11.1.3 Status of Bio-medical Waste Generation

The total quantity of Bio-medical Waste Generation in the State during the year was 1432.87 kg/day. Out of which, 1403.4647 kg/day was generated by bedded HCFs and 29.4053 kg/day from non-bedded HCFs (Fig. 11.1.3).

Fig. 11.1.3 Bio-medical Waste from Bedded and Non-bedded HCF



The district-wise distribution of Bio-medical Waste Generation is as shown in Table 11.1.3.

Table 11.1.3 District Wise Bio-medical Waste Generation (for the year 2018)

Sl. No.	Name of the District	Bio-medical Waste Generation (in Kg/day)
1	East Khasi Hills	1106.3212
2	West Khasi Hills	39.453
3	South West Khasi Hills	3.588
4	West Jaintia Hills	68.9281
5	East Jaintia Hills	9.128
6	West Garo Hills	78.454
7	South Garo Hills	15.192
8	East Garo Hills	19.234
9	North Garo Hills	6.833
10	Ri Bhoi	85.167
11	South West Garo Hills	0.571
TOTAL		1432.87

11.1.5. Bio-medical Waste Treatment and Disposal

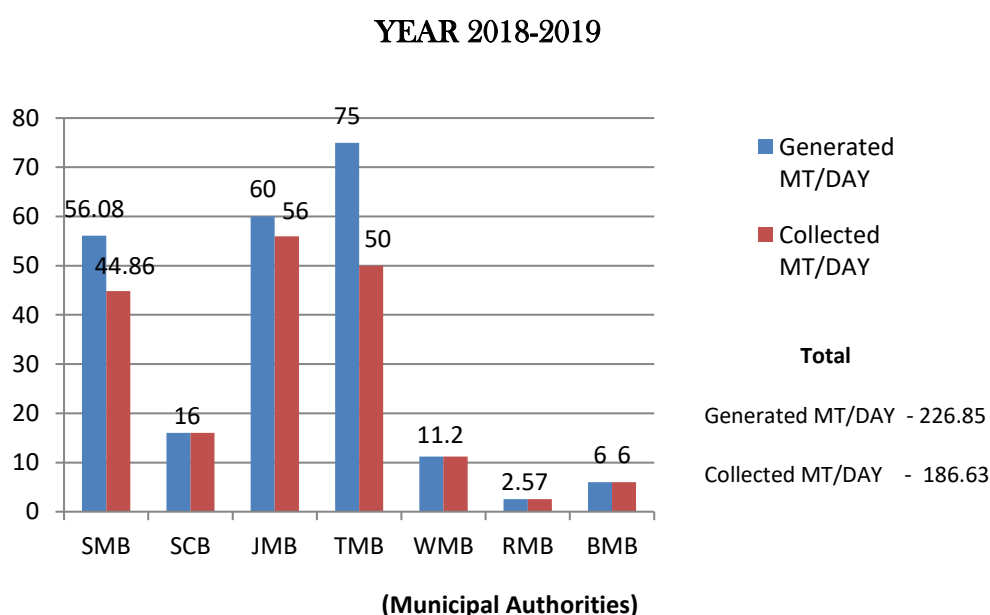
The number of Health Facilities having captive treatment and disposal facilities were 89 and the total bio-medical waste treated and disposed by captive treatment facilities in kg/day were 941.4 kg/day. Bio-medical waste treatment and disposal by Common Bio Medical Waste Treatment

Facilities were available only in Shillong. The facility comprised of a double chambered incinerator of 100 kg/hr capacity and located at Mawlai Mawiong, Shillong. The facility was operated by the Shillong Municipal Board and provided service to 12 hotspots, 1 Veterinary Hospital, 1 Medical Research Institution, 4 Diagnostic Centres and 4 Dispensaries. The average quantity of bio-medical waste disposed in the facility is about 491.5 kg/day.

11.2.0 SOLID WASTE MANAGEMENT

The Meghalaya State Pollution Control Board enforced the Solid Waste Management Rules, 2016 through local bodies and review implementation of these rules twice a year in coordination with the Directorate of Urban Affairs, Government of Meghalaya and the Deputy Commissioner of the respective District. The State is having 7(Seven) Local Bodies viz. Shillong Municipal Board (SMB), Shillong Cantontment Board (SCB), Jowai Municipal Board (JMB), Tura Municipal Board (TMB), Williamnagar Municipal Board (WMB), Resubelpara Municipal Board (RMB) and Baghmara Municipal Board (BMB). These Municipal Authorities were responsible for managing the solid waste generated within their respective jurisdiction. The Shillong Municipal Board however, provides its disposal facility for other town outside its jurisdiction falling under the Shillong Urban Agglomeration. The status of generation and collection of Solid in the respective towns during 2018-2019 is as shown in the Fig. 11.2.1

11.2.1 Status of Solid Waste Generation and Collection Local Bodies-wise in MT/day



Status of waste collection, segregation, transportation and disposal**1. TURA MUNICIPAL BOARD:*****(i) Collection of Municipal Solid Wastes:-***

- Municipal Solid Wastes at an average daily quantity of 50 MT were collected.
- Collection of garbage was being done on daily basis from the storage bins located in different localities/wards.
- House to house collection was being practiced.

(ii) Segregation of Municipal Wastes:-

- No segregation of Municipal Solid Waste was adopted.

(iii) Storage of Municipal Wastes:-

- 35 (Thirty-Five) Masonry bins, 27(Twenty-seven) Covered Plastics/Metal Containers, 35 (Thirty-Five) Up to 1.10 m³ Bins, 16 (Sixteen) Containers (above 5m³) were provided in all the wards.
- The wastes from storage bins were cleared manually and one JCB Robot was used to load garbage on exceptionally high garbage accumulation days.

(iv) Transportation of Municipal Wastes:-

- 1 (One) Tractor, 1(One) Non Tipping Truck, 18(Eighteen) Tipping Truck, 2 (Two) Dumper-placers, 1 (One) Refuse Collection and 1 (One) JCB (Robot) were used for transportation of the collected Municipal Solid Wastes to the disposal site.
- The vehicles used for transportation of wastes were covered.
- Manual handling of wastes was adopted for loading and unloading and one JCB Robot was used to load garbage on exceptionally high garbage accumulation days.

(v) Processing of Municipal Wastes:-

- Construction work for compost plant had been completed and will be operational at the earliest.

(vi) Disposal of Municipal Wastes:-

- At present the solid waste collected was dumped in the existing dumping yard of Tura Municipal Board.

2. JOWAI MUNICIPAL BOARD:***(i) Collection of Municipal Solid Wastes:-***

- Municipal Solid Wastes at an average daily quantity of 56 MT were collected from different localities/wards on daily basis.
- House to house collection was being practiced.

(ii) Segregation of Municipal Wastes:-

- No segregation of Municipal Solid Waste was adopted.

(iii) Storage of Municipal Wastes:-

- Uses of Public Dustbins were discouraged by Local Durbar of different Localities in the Town.

(iv) Transportation of Municipal Wastes:-

- 2 (Two) none tipping Trucks and 4(Four) Tipping Truck were used for transportation of the collected Municipal Solid Wastes to the disposal site.
- The vehicles used for transportation of wastes were covered.
- Manual handling of wastes was adopted for loading and unloading.

(v) Processing of Municipal Wastes:-

- No processing of Municipal Solid Wastes had been adopted so far.

(vi) Disposal of Municipal Wastes:-

- At present the solid waste collected was dumped in the existing dumping yard at Mynkjai of Jaintia Hills Autonomous District Council.

3. WILLIAMNAGAR MUNICIPAL BOARD:***(i) Collection of Municipal Solid Wastes:-***

- Municipal Solid Wastes at an average daily quantity of 11.20 MT were collected.
- Collection of garbage was being done on daily basis from the storage bins located in different localities/wards.
- House to house collection was being practiced.

(ii) Segregation of Municipal Wastes:-

- No segregation of Municipal Solid Waste was adopted.

(iii) Storage of Municipal Wastes:-

- 21 (Twenty one) Masonry bins and 15 (Fifteen) Covered Plastics/Metal Containers were provided in all the wards.
- The wastes from storage bins were cleared manually and one JCB Robot was used to load garbage on exceptionally high garbage accumulation days.

(iv) Transportation of Municipal Wastes:-

- 2(Two) Tipping Truck, 3 (Three) Dumper-placers, 2 (Two) others and 1 (One) JCB (Robot) were used for transportation of the collected Municipal Solid Wastes to the disposal site.
- The vehicles used for transportation of wastes were covered.
- Manual handling of wastes was adopted for loading and unloading and one JCB Robot was used to load garbage on exceptionally high garbage accumulation days.

(v) Processing of Municipal Wastes:-

- No processing of Municipal Solid Wastes had been adopted so far.

(vi) Disposal of Municipal Wastes:-

- At present the solid waste collected was dumped in the existing dumping yard of Williamnagar Municipal Board.

4. SHILLONG MUNICIPAL BOARD:***(i) Collection of Municipal Solid Wastes:-***

- Municipal Solid Wastes at an average daily quantity of 44.86 MT were collected.
- Collection of garbage was being done on daily basis from different localities/wards.
- House to house collection was being practiced.

(ii) Segregation of Municipal Wastes:-

- No segregation of Municipal Solid Waste was adopted.

(iii) Storage of Municipal Wastes:-

- There was no secondary storage.

(iv) Transportation of Municipal Wastes:-

- 3(Three) Non Tipping Truck, 18(Eighteen) Tipping Truck, 1 (One) Dumper-placers, 1 (One) Refuse Collection, 15 (Fifteen) others and 2 (Two) JCB (Robot) were used for transportation of the collected Municipal Solid Wastes to the disposal site.
- The vehicles used for transportation of wastes were covered.
- Manual handling of wastes was adopted for loading and unloading and JCB Robot was used to load garbage on exceptionally high garbage accumulation days.

(v) Processing of Municipal Wastes:-

- Composting and recycling Unit was set up at Mawiong for treating the municipal solid wastes. The total quantity of waste processed through composting and recycling was 8.72 TPD.

(vi) Disposal of Municipal Wastes:-

- At present the solid waste collected was disposed in the existing Landfill site of Shillong Municipal Board.

5. RESUBELPARA MUNICIPAL BOARD:

(i) Collection of Municipal Solid Wastes:-

- Municipal Solid Wastes at an average daily quantity of 2.57 MT were collected.
- Collection of garbage was being done on daily basis from the storage bins located in different localities/wards.
- House to house collection was being practiced.

(ii) Segregation of Municipal Wastes:-

- No segregation of Municipal Solid Waste was adopted.

(iii) Storage of Municipal Wastes:-

- 12 (Twelve) Masonry bins and 8 (Eight) Up to 1.10 m³ Bins were provided in all the wards.
- The wastes from storage bins were cleared manually.

(iv) Transportation of Municipal Wastes:-

- 1(One) Dumper Truck and 1(One) Tipping Truck were used for transportation of the collected Municipal Solid Wastes to the disposal site.
- The vehicles used for transportation of wastes were covered.
- Manual handling of wastes was adopted for loading and unloading.

(v) Processing of Municipal Wastes:-

- Construction work for compost plant was under process.

(vi) Disposal of Municipal Wastes:-

- At present the solid waste collected was dumped in the existing dumping yard of Resubelpara Municipal Board.

6. BAGHMARA MUNICIPAL BOARD:***(i) Collection of Municipal Solid Wastes:-***

- Municipal Solid Wastes at an average daily quantity of 6 MT were collected.
- Collection of garbage was being done on daily basis from the storage bins located in different localities/wards.
- House to house collection was not being practiced.

(ii) Segregation of Municipal Wastes:-

- No segregation of Municipal Solid Waste was adopted.

(iii) Storage of Municipal Wastes:-

- 14 (Fourteen) Cement Concrete Cylinder bins and 200 (Two Hundred) Covered Plastics were provided in all the wards.
- The wastes from storage bins were cleared manually.

(iv) Transportation of Municipal Wastes:-

- 1(One) Tipping Truck and 1 (One) Dumper-placers were used for transportation of the collected Municipal Solid Wastes to the disposal site.
- The vehicles used for transportation of wastes were covered.
- Manual handling of wastes was adopted for loading and unloading.

(v) Processing of Municipal Wastes:-

- Construction work for compost plant was completed and will be operational at the earliest.

(vi) Disposal of Municipal Wastes:-

- No processing of Municipal Solid Wastes had been adopted so far.

Monitoring at Waste processing/Landfills sites

Sl. No.	Name of facilities	Ambient Air	Ground Water	Leachate Quality	Compost Quality	VOCs
1.	Dumping Site of Shillong Municipal Board	Yes	Yes	Yes	No	No
2.	Landfill Site of Jowai Municipal Board	Yes	No	No	No	No
3.	Landfill Site of Tura Municipal Board	Yes	No	No	No	No
4.	Landfill Site of Williamnagar Municipal Board	Yes	No	No	No	No

11.3.2 PLASTIC WASTE MANAGEMENT RULES 2016

The implementation of the Plastic Waste Management Rules 2016 is in conjunction with the Solid Waste Management Rules, 2016. All the Municipalities in the State are responsible for proper management of Plastic Waste generated within their respective jurisdiction. According to the information obtained from the Local Bodies, the generation of Plastic Wastes in the State during 2018-2019 is about 1263 MT.

The manufacturing units registered under Plastic Waste Management Rules, 2016 are as follows:

M/S Megha Polycon (P) Ltd.	: DPE/LLDPE Water Storage Tanks
M/S Kakarania Innovative Systems (P) Ltd.	: Polythene tubes; Plastic bags (plain/printed); Plastic sheet films; Linear Wrappers; Laminated rolls/pouches (plain/printed)
M/S Meghalaya Polymers	: Water Stage Tanks
M/S K R Polymers	: Plastic Pipes and Pipe Fittings

Details of Plastic Waste Management (PWM):

For the proper management of Plastic Waste, the following procedures are being followed:

Collection & Segregation:

The Waste is collected as municipal waste into dry waste and wet waste. The plastic waste is segregated from the dry waste at the dumpsite and collected for compaction and bailing.

Disposal:

(Co-processing): Dalmia Bharat Cement, Lumshmong, East Jaintia Hills District, has informed Regional Director, Northeastern Zone, CPCB that their plant was ready for co-incineration of plastic and solid waste.

Road Construction:

A 1 km road was constructed in Nongkynjeng Village in West Khasi Hills, Meghalaya using plastic waste.

Partial or complete ban on usage of plastic carry bags:

The use and sale of plastic bags less than 50 microns has been prohibited and public notice has been issued regarding compliance to the PWM Rules 2016.

It may also be mentioned that Raids/Checking/Survey were conducted by the District Magistrate, East Khasi Hills District on the local market for compliance to the PWM Rules 2016.

11.3.4 The Batteries (Management and Handling) Rules, 2001.

The implementation of the Batteries (Management and Handling) Rules, 2001 is monitored by the State Pollution Control Board and the status of its implementation is as shown below:-

Quantity of used leads batteries channelized to registered recyclers for the year 2018-2019**A- Manufacturer**

Sl. No.	Name & Address of Manufacturers	Quantity of batteries sold		Quantity of batteries sold		NO of collection centres	No of dealers	No of registered dealers
		Nos.	Weights in kgs.	Nos.	Weights in kgs.			
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

B- Assembler

Sl. No.	Number of Assembler	Quantity of batteries assembled & sold		Quantity of batteries sent to Authorized recyclers	
		Nos.	Weights in kgs.	Nos.	Weights in kgs.
1	1	48	2673.6	Nil	Nil

C- Importer

Sl. No.	Name & Address of Assembler	Quantity of batteries assembled & sold		Quantity of batteries sent to Authorized recyclers	
		Nos.	Weights in kgs.	Nos.	Weights in kgs.
1	Nil	Nil	Nil	Nil	Nil

D- Bulk Consumers

Sl. No.	Number of Bulk Consumers	Number of Bulk Consumers submitted returns	Quantity of batteries Sold		Quantity of batteries sent to Authorized Recyclers	
			Nos.	Weights in kgs.	Nos.	Weights in kgs.
1	9	5	96	700	285	6001

E- Auctioneers

Sl. No.	Number of Auctioneers	Number of Auctioneers submitted returns	Quantity of Batteries Sold		Quantity of used batteries sent to Authorized Recyclers	
			Nos.	Weights in kgs.	Nos.	Weights in kgs.
1	Nil	Nil	Nil	Nil	Nil	Nil

F- Recyclers

Sl. No.	Number of Authorized Recyclers	Capacity of recyclers in MT/ year	Number of Authorized Recyclers submitted returns	Weight of used batteries received from the Recycler							
				Manufacturer	Assembler	Dealer	Importer	Bulk Consumers	Auctioneer	Self Imported	Others Sources
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

11.4.0 Hazardous Waste Management

All the hazardous waste generating industries in the State are responsible for proper implementation of the Hazardous & Other Waste Management Rules 2016.

Annual Inventory of Hazardous Waste Management (2018-2019)

Sl. No	Name of the District	Number of Hazardous Waste Generating Industry	Authorized Quantity of Hazardous Waste (Metric Tonne)				Quantity of Hazardous Waste generated as per Annual Return within the State/UT (Metric Tonne)				Quantity of Hazardous Waste imported during the year (Metric Tonne)	Quantity of Hazardous Waste exported during the year (Metric Tonne)
			Landfillable	Incinerable	Recyclable	Utilizable	Land fillable	Incinerable	Recyclable	Utilizable		
0	1	2	3	4	5	6	7	8	9	10	11	12
1	Ri-Bhoi	7	24		430		12.65		414.473		Nil	Nil
2	East Khasi Hills	1			19.08				8.63			
3	East Jaintia Hills	11			64.133				51.306			

11.5.0 E-Waste (Management) Rules, 2016:

E-Waste (Management) Rules, 2016 which was notified vide Notification No.GSR 339(E) dated 23/03/2016 by the Ministry of Environment, Forest & Climate Change, Government of India and enacted and put into force from 1st October, 2016. The objective of this Rules was to improve the e-waste management system in the Country and to eliminate the constraints in implementation of the existing Rules and also to give thrust on waste minimization, recycling, for treatment and processing, scientific disposal etc.

The E-Waste Management Rules, 2016 was applied to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment including their components, consumables, parts and spares which made the product operational.

The Meghalaya State Pollution Control Board has published Public Notice for awareness of all manufacturers, Producers, Collection Centre, Dealers, Refurbishes, Consumers & Bulk Consumers, Dismantler, Recycler on the provisions of E-Wastes Management Rules, 2016 for necessary compliance.

There was no E-Waste Manufacturing unit, Recycling unit within the State of Meghalaya.

M/s Karo Sambhav Pvt Ltd. and M/s RLG Reverse Logistics India Pvt. Ltd. are engaged by leading Producers as part of the EPR to carry out awareness programme and to collect the E-Waste on their behalf within Meghalaya.

QUANTITY OF E-WASTE COLLECTED FOR THE YEAR 2018-2019 IN THE STATE OF MEGHALAYA

COLLECTION PERIOD	ITEM	ELECTRICAL AND ELECTRONIC EQUIPMENT CODE	QUANTITY (KG)
April, 2018	CRT Monitor	ITEW 2	127
May, 2018	CRT Monitor	ITEW 2	120
August, 2018	CPU	ITEW 2	100
	CRT Monitor	ITEW 2	150
September, 2018	CPU	ITEW 2	79
	Keyboard	ITEW 2	6.65
	CRT Monitor	ITEW 2	189
	Lcd Monitor	ITEW 2	5
	Mobile	ITEW 15	2.6
	Printer	ITEW 6	45
	Cartidge	ITEW 6	11.55
	Charger	ITEW 15	0.4
	Tablet	ITEW 15	0.25
	Cables	ITEW 15	0.20
	Laptop	ITEW 3	3.6
	Mouse	ITEW 2	0.25
Total E-waste collected for the year 2018-2019 (i.e. from April, 2018 to March, 2019)			: 840 KG

11.6.0 Construction and Demolition Waste Management Rules, 2016:

Construction and Demolition Waste Management Rules, 2016 which was notified vide Notification No.G.S.R.317(E) dated 29th March 2016 by the Ministry of Environment, Forest and Climate Change, New Delhi with the objective of this Rule is to improve the management of waste resulting from construction, re-modeling, repair and demolition of any civil structure of individual or organisation or authority who generates construction and demolition waste such as building materials, debris, rubble.

The Construction and Demolition Waste Management Rules, 2016 implies mostly to service provider who provide services like water, sewerage, electricity, telephone, roads, drainage etc. often generate construction and demolition waste during their activities, which includes excavation, demolition and civil work. The Board had advised the Director, Urban Affairs Department to ensure formulation of the policy on Construction and Demolition Waste Management Rules, 2016. The Board, had also instructed the Government Departments/Agencies viz Meghalaya Urban Development Authority, Public Works Department (Roads & Buildings) to prepare Comprehensive Waste Management Plan as required under Construction and Demolition Waste Management Rules, 2016. The Public Works Department had intimated the Board that the Department had already initiated the process for identification of land required for disposal of construction and demolition wastes generated due to construction.

The Meghalaya Urban Development Authority issued a Press Release that prohibited all owner, contractors, firms including Government Department undertaking building construction to dump construction and demolition waste of building materials etc. on roadside, drains and public space.

Site for collection and processing facility yet to be identified by the concerned State Department.

CHAPTER XII

LEGAL MATTERS

12.1: CASES PENDING IN THE COURTS THAT HAVE INVOLVED THE MEGHALAYA STATE POLLUTION CONTROL BOARD

Cases on Environmental issues filed in the Courts, have involved the Meghalaya State Pollution Control Board (MSPCB) either directly or indirectly.

In cases of direct involvement the Meghalaya State Pollution Control Board files affidavit or answers the court directly and in cases of indirect involvement, the Meghalaya State Pollution Control Board answers/furnishes information and submits reports to the State Government or Central Pollution Control Boards (CPCB).

There are cases wherein the Courts have constituted committees at National Level, at State Level and some both for submitting reports and recommendations. In such cases the Meghalaya State Pollution Control Board furnishes reports /information directly to the committees or through the Central Pollution Control Board/State Government.

Matters that are pending in the Hon'ble Supreme Court, the High Court and the National Green Tribunals are highlighted in the following tables:-

12.1.1: CASES IN THE HON'BLE SUPREME COURT

The following table highlights on the subject matter and involvement of the Meghalaya State Pollution Control Board in cases pending in the Hon'ble Supreme Court during 2018-2019:-

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Writ Petition (civil) No. 202 of 1995 T.N. Godavarman Thirumulpad Vs. Union of India.	Site Clearance by MoEF.	Following directions from the State Government.
2.	SLP NOS.16308/07 with SLP 16314/07, 16317/07, 16467-16469/07, WP Nos.131/11, 141/11, 289/11344/11, 69/11,182/11, 354/11 and 304/11. Contempt Petition Nos. 236/11, 237/11, 288/11, 356/11, 37/12 in SLP No. 16308/07 and Contempt Petition No. 348/11 in SLP No. 19467- 19469/07. Ankur Gutka Etc. Etc. Petitioners Vrs. Indian Asthama Care Society Respondents and Ors. Etc.	Plastics Waste (Management and Handling) Rules, 2011 and the Municipal Solid Waste (Management and Handling) Rules, 2000	Pollution Control Boards became impleaded vide Order Dated 03-04-2013- filing affidavit and complying to directions from time to time.

Sl. No.	Name of the Case	Subject Matter	Involvement
3.	Writ Petition (C) No. 657 of 1995- Research Foundation for Science Technology and Natural Resource Vs. Union of India & Ors.	Hazardous Waste.	Complying to the directions of the Court and recommendations of the Monitoring Committee and submitting report through the Central Pollution Control Board.
4.	Wp (C) No. 110/2006- Peoples Rights & Social Res. Centre & Ors. Vs. Union of India & Ors.	Air Pollution Control Devices in quartz industries	Answering through Central Pollution Control Board.
5.	Writ Petition(Civil) No.728/2015- Arjun Gopal Vs. Union of India	Air Pollution by bursting of Fire Crackers	Direct Respondents
6.	Supreme Court Order Dt. 01.11.2017 in S.M.W (Civil) No.1/2015 - In Re: Outrage as Parents end life after child's dengue death & Ors.	Solid Waste Management Rules, 2016	Answering through the State Government
7.	Supreme Court of India, Civil Appeal No.1657 of 2018, Bharat Jhunjhunwala Vrs. Pushp Saini and Ors.	Pertain to release and maintenance of minimum environmental flows (e-flow) in rivers downstream of all hydro - power projects situated in India.	Direct Respondent
8.	Civil Appeal No.5272 of 2016 KA Hima Nongstoin Land Owners, Coal Traders and Producers Association Vrs. All Dimasa students Union Dima Hasao Dist(15-16)	Coal Mining	Direct Respondent
9.	Civil Appeal Dairy No. 3067/2018 Leber Laloo Vrs. All Dimasa Students Union, Hasao District Committee & Ors.	Coal Mining	Direct Respondent

12.1.2: Case Disposed

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Union of Civil Appeal No.5119-20 of 2015- Don Bosco School through its administrator & Ors. Vrs. Union of India & Ors.	Environmental Clearance for Mining.	MSPCB had sent Parawise comments to the Government.

12.1.3: CASES IN THE HON'BLE HIGH COURT

In the Hon'ble High Court, the cases have involved the Meghalaya State Pollution Control Board either as Direct Respondent or as Proforma Respondent and when involved indirectly the Meghalaya State Pollution Control Board answers through the State Government.

The following table highlights on the subject matter and involvement of the Meghalaya State Pollution Control Board in cases pending in the Hon'ble High Court during 2018-2019

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	P.I.L. No. 10/2018 Court on its Own Motion Vrs. State of Meghalaya	Greater Shillong Water Supply Scheme	MSPCB is direct Respondent
2.	P.I.L. No. 14 of 2018 Shri. Riton Sun Vrs State of Meghalaya & Ors.	Umran Diary situated in Umsning, Ri-Bhoi District, Meghalaya	MSPCB is direct Respondent
3.	P.I.L. No. 2 of 2019 "Distribution of LPG Cylinders in the State of Meghalaya" Vrs. State of Meghalaya	LPG storage and bottling capacity at Umiam, Ri-Bhoi District	MSPCB is direct Respondent

In P.I.L. No. 10/2018 Court on its Own Motion vs. State of Meghalaya, P.I.L. No.14 of 2018, Shri. Riton Sun Vrs. State of Meghalaya & Ors. and in P.I.L. No. 2 of 2019 "Distribution of LPG Cylinders in the State of Meghalaya" Vrs. State of Meghalaya, the MSPCB answers directly in the High Court and P.I.L. No. 8 of 2017 got disposed of.

12.1.4: Case Disposed

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	P.I.L. No. 8 of 2017/1913 - Smti Isrin Mawnai & Anr Vs. State of Meghalaya & Ors.	Turbidity in the Umran River at Ri - Bhoi	MSPCB was direct Respondent

12.2: CASES IN THE HON'BLE NATIONAL GREEN TRIBUNALS

Since the inception of the National Green Tribunal (NGT), cases involving the Meghalaya State Pollution Control Board have been mostly filed in the Tribunals. The NGT had constituted Zonal Benches for hearing cases in the Eastern Zone, in the Western Zone, in the Southern Zone and the Central Zone. The Principal Bench sometimes carries out Circuit Benches in the different States of India in matters having direct connection with the concerned state for quick disposal of the same.

The Meghalaya State Pollution Control Board apart from cases in the Principal Bench and Eastern Zone Bench at Kolkata, it also has some cases in the Circuit Bench at the Meghalaya High Court, Shillong. The following tables display the cases in their nature of involvement in different Tribunals and benches:-

CASES IN THE HON'BLE NATIONAL GREEN TRIBUNAL

12.2.1: PRINCIPAL BENCH, NEW DELHI

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Appl. No.37/2013 (THc). Wassan Singh Vrs. State of Punjab & Ors.	Noise Pollution and industries running without Consents from Pollution Control Boards.	Complying to directions from the Tribunal and submitting / reporting through the CPCB.
2.	Appl. No. 199/2014, Almitra H. Patel & Anr. Vrs. Union of India & Ors.	Municipal Solid Waste Management	Complying to directions of the Tribunal and submitting reports through the CPCB.
3.	Original Application No.124/2014 & Misc. Application No.55/2014 Money Goyal & Ors. Vrs. MoEF & Ors.	Plastic Waste	Furnishes required information through the CPCB
4.	Original Application No. 117 of 2014 Shantanu Sharma Vrs. Union of India & Ors.	Fly Ash and its disposal	Direct Respondent and filing Affidavits.
5.	OA No.102 of 2014-Sandplast (India) Ltd. & Anrs Vrs. Ministry of Environment & Forest & Ors.	Fly Ash	Direct Respondent and filing affidavit in answering the Tribunal
6.	OA No.21 Of 2014-Vardhaman Kaushik Vrs. Union of India & Ors. and OA No.95 Of 2014-Sanjay Kulshrestha Vrs. Union of India & Ors.	Air Pollution and steps taken for prevention and control of Air Pollution	Replies and complies to directions of the Hon'ble Tribunal.
7.	Original Application No. 110(THc)/ 2012, Threat to Life Arising out of Coal Mining in South Garo Hills District Vrs. State of Meghalaya	30 coal laborers trapped in a coal mine, 15 escaped and 15 reported to have died inside the coal mine.	Direct Respondent - filing affidavits and complying to directions of the Hon'ble Tribunal. Committee Headed by Retd. Judge Guwahati High Court, Justice B.P. Katakey has been formed to submit report on the execution of the Order of the Hon'ble Tribunal.

Sl. No.	Name of the Case	Subject Matter	Involvement
8.	Appl. No. 13 of 2014, Impulse NGO Network Vrs. State of Meghalaya & Ors.	Illegal Mining activities in about 5000 coal mines and about one lakh quarries in Jaintia Hills District of Meghalaya.	Direct Respondent - filing affidavits and complying to directions of the Hon'ble Tribunal. Committee Headed by Retd. Judge Guwahati High Court, Justice B.P. Katakey has been formed to submit report on the execution of the Order of the Hon'ble Tribunal
9.	Appl. No. 73 of 2014, All Dimasa Students Union Dima Hasao District Committee Vs. State of Meghalaya & Ors.	Illegal mining in Jaintia Hills, causing acidity of the river Koopily consequently eroding the turbines of the Hydro Power Plant at the said river.	
10.	Appl. No. 186/2014. Thomas Nongtdu & Anr. Vs. The State of Meghalaya & Anr.	Coal Mining, transporting the extracted coal & Mining Plan	
11.	Original Application No. 287/2017-R.K.Momin Vrs. State of Meghalaya & Ors.	Coal Mining	Direct Respondent
12.	Org. Appl No. 593 of 2017 in W.P. (Civil) No. 375 of 2012 Paryavaran Suraksha Samiti & Anr Vrs. Union of India & Ors.	NGT, Delhi follows up the State Pollution Control Boards on Order/ Direction of the Supreme Court.	MSPCB files affidavits on reports of action taken on Orders/Directions of the Hon'ble Supreme Court to the Tribunal
13.	Original Application No. 247 of 2017 (M.A. No. 469 of 2017) Central Pollution Control Board Vrs. State of Andaman & Nicobar & Ors.	Plastic Waste Management Rules, 2016	Direct respondent. Files affidavit and files Compliance Report to CPCB.
14.	O.A. 200/2014 M.C. Mehta Vrs. Union of India & Ors.	Prevention and control of pollution of River Ganga and its tributaries.	The matter is being processed in light of O.A.606/2018 and the 'River Rejuvenating Committee' formed in O.A. No.673/2018
15.	Satish Kumar Vrs. UOI & Ors. and Mahavir Singh Vs. UOI & Ors. (O.A. No. 56/2013 and O.A No. 57/2013	Order DT. 20-07-2018 - appointing a person of legal background in SPCBs.	Answering through the State Government.
16.	Original Application No. 804/2017 Rajiv Naryana & Anr. Vrs. Union of India & Ors.	Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016. Setting up of TSDF and taking immediate action against erring units by the concerned authorities / regulatory bodies.	MSPCB answers through the CPCB

Sl. No.	Name of the Case	Subject Matter	Involvement
17.	Original Application No. 606/2018 Solid Waste Management Rules, 2016	Solid waste management and allied issues	MSPCB answers through the State Government
18.	Original Application No. 24/2018/EZ, Ambarnath Sengupta Vrs. State of West Bengal & Ors.	Immersion of idols	MSPCB answers through the State Government
19.	O.A. NO. 673/2018 News item published in "The Hindu" Authored by Shri Jacob Koshy titled "More River Stretches are now Critically Polluted : CPCB"	Pollution of river Stretches	State Committee formed as per directions. MSPCB is member.
20.	O.A. No. 48/2016 Vivek Tyagi Vrs. State of U.P. & Ors.	To prevent discharge of untreated sewage in water bodies, including ponds and Uppar Ganga Canal, endangering public health in Niwari town, 20 kms from Ghaziabad.	MSPCB answers through the State Government
21.	O.A. NO. 52/2015(WZ) Bhagwan Bhadale & Anr. Vrs. the Commissioner, PMC & Ors.	Solid Waste Management Rules, 2016	MSPCB answers through the State Level Committee.
22.	O.A. NO. 681/2018 News Item published in "the times of India" authored by Shri. Vishwamohan titled "Nacp with multiple timelines to clean air in 102 cities to be released around August 15"	Remedial measures to be taken to bring the air quality of 102 cities identified as 'non-attainment cities'	State Committee formed as per directions of Hon'ble NGT. MSPCB is member.
23.	O.A. No 843/2018 Sardar Patel Jan Chetna Education Society Vrs. State of Haryana & Ors.	Directing the Director of Environment Haryana to take steps to specify the distance of stone crushers from educational institutions.	MSPCB answers through CPCB
24.	O.A. No. 46/2018 with O.A. 1083/2018, Nuggehalli Jayasimha with Residents of C2 Block Aya Nagar Vrs. Government of NCT of Delhi.	Dairies and Gaushalas in the State/UT	MSPCB answers through CPCB

Sl. No.	Name of the Case	Subject Matter	Involvement
25.	O.A. No. 710/2017, 711/2017, 712/2017, and 713/2017 Shailesh Singh Vrs. Shella Hospital & Trauma Centre Shahjhanpur & Ors. Kailash Hospital and Heart Institute & Ors. Shri Ganga Charan Hospital (P) Ltd., Bareilly & Ors. Katiyar Nursing Home, Hardoi & Ors.	Biomedical Waste Management	Complying to directions of the Tribunal coming through the CPCB and the State Government (Forest & Environment Department)
26.	O.A. 400/2019 Social action for Forest & Environment (safe) Vrs. Union of India & Ors.	Pyrolysis Industries	MSPCB answers through CPCB
27.	O.A. No. 173/2018 & O.A. No. 186/2016 in the matter titled Sudarsan Das Vrs. State of West Bengal & Ors. & Satendra Pandey Vrs. Ministry of Environment Forest & Climate Change & Anr respectively (NGT & Ors. Vrs. Virender Singh State of Gujarat & Ors.)	Sand Mining	MSPCB answers through the State Government
28	O.A. No. 325/2015 Lt. Col. Sarvadaman Singh Oberoi Vrs. Union of India & Ors. (River Restoration)	Restoration of all the water bodies	MSPCB answers through the State Government and CPCB and matter is also taken in light of O.A. No. 673/2018 in which a State Committee had been formed and MSPCB is also a member.
29	O. A. No. 512/2018 Shailesh Singh Vrs. State of UP & Ors.	E-Waste	MSPCB answers through the State Government.
30.	O.A. No. 1038/2018, in view of the News item titled 'CPCB to rank Industrial Units on Pollution Levels' published in "The Asian Age"	'CPCB to rank industrial units on pollution levels'	MSPCB answers through CPCB

12.2.2: CASES DISPOSED

Sl. No.	Name of the Case	Subject Matter	Remarks
1.	Org. Appl. No.171 of 2013. National Green Tribunal Bar Association Vrs. MoEF & Ors.	Removal of minerals from river beds (sand mining)	MSPCB complied to directions of the Hon'ble Tribunal through the CPCB, MoEF and the State Government (Forest & Environment Department)
2.	O.A. No. 723/2017 Prakash Nidhi Sharma Vrs. Union of India & Ors.	Pyrolysis Oil Plants (TPOs)	MSPCB answered through CPCB
3.	O.A. No. 432/2015 Ashwini Kumar & Ors. Vrs. Union of India & Ors.	Save and conserve critically endangered indigenous species of livestock	MSPCB was Direct Respondent implemented the directions of the Hon'ble Tribunal and filed affidavits.
4.	O.A. No. 529/2018 Sou Motu proceedings initiated against the unscientific accumulation of waste leading to environmental pollution and health problem Vrs. State of Kerala & Ors.	Disposal of wastes by the State Government, Municipal Corporations, Municipalities, Gram Panchayat	MSPCB complied to directions of the Hon'ble Tribunal.

12.3: NGT EASTERN ZONE, KOLKATA

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Appl. No. 42 (THc) of 2014, (WP(C) Suo Moto 76/2012 of Meghalaya High Court, Environmental Pollution & Health Hazard in the State Vrs. State of Meghalaya & Ors.	Based on a performance audit CAG Report on MSPCB that was printed in the media.	Direct Respondent- implementing the directions of the Hon'ble Tribunal and filing affidavits.
2.	Appl. No. 146 of 2014. Nababrata Bhattacharjee Vs. State of Meghalaya & Ors.	Pollution of the River Umkhrah & Umshyrpi.	
3.	O.A No.15/2016/EZ Shri James Roy Kurbah vs Shillong Municipal Board & Ors.	Pollution of the River Wah-Umshyrpi.	
4.	Original Application NO.172/2016/EZ- Sajay Laloo Vrs. State of Meghalaya & Ors.	Contamination of River Myntdu, Jowai	Direct Respondent- carrying directions of the Hon'ble Tribunal and filing affidavits.
5.	Misc.Application No. 121/2017/EZ in W.P(C) No.375/2017(SC)-Paryavaran Suraksha Samiti & Anr Vrs. Union of India & Ors.	Making the primary Effluent Treatment Plant fully operational within 3(three) months from the date of Judgment i.e. 22.02.2017	MSPCB is Direct Respondent implementing the directions of the Hon'ble Tribunal and filing affidavits.

Sl. No.	Name of the Case	Subject Matter	Involvement
6.	O.A. No. 93/2017/EZ- Greater Laban Community Development Society (GLCDS) Vrs. State of Meghalaya & Ors.	Felling of trees and illegal construction of boundary wall. Alleged encroachment of undeclared Critical Catchment Area in Lawsohtun Forest, Shillong by Secretary, Defence, Union of India	MSPCB is Direct Respondent implementing the directions of the Hon'ble Tribunal and filing affidavits.
7.	Original Application No.158/2016/EZ - Subhas Datta Vrs. State of West Bengal & Ors.	Noise Pollution	MSPCB answers through the State Government and implements the directions of the Hon'ble Tribunal.
8.	O.A. No. 48/2019 (EZ) Jitul Dekka Vrs. Union of India	Illegal Mining of Gravel/Stone and illegal Stone Crusher	MSPCB is coordinating with the Committee formed and at the same time files its own affidavits on compliance to directions of the Hon'ble Tribunal.

12.4: NGT WESTERN ZONE, PUNE

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Execution Application No. 03/2017 in Application No. 39 of 2013 (WZ) Dileep B. Nevatia Vrs. Ministry of Road Transport & Highways & Anr.	Noise Pollution from vehicles and Air Pollution emitted by vehicles	Complying to the directions of the Hon'ble NGT from time to time.

12.5: CASES FILED IN THE DISTRICT COURTS OF MEGHALAYA

The NGT, Eastern Zone Bench, Kolkata in its various orders of the cases pending before it (mentioned above) had directed that the Meghalaya State Pollution Control Board take Legal action against the defaulting industries which defaulted beyond the directions under the Water (Prevention and Control of Pollution) Act, 1974 and under the Air (Prevention and Control of Pollution) Act, 1981. Accordingly, complaints were made before the Magistrate First Class of concerned Districts as empowered under Chapters VII of the Water (Prevention and Control of Pollution) Act, 1974 and Chapter VI of the Air (Prevention and Control of Pollution) Act, 1981.

The following are the Complaints before the District Courts:

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Meghalaya State Pollution Control Board Vrs. Swish Cafe	Violation of the terms and conditions of the Consent granted by the Board	Complainant

12.5.1: CASE DISPOSED

Sl. No.	Name of the Case	Subject Matter	Involvement	Status
1.	C.R. No. 4/2017 Meghalaya State Pollution Control Board Vrs. M/s Shree Sai Prakash (P) Ltd.	Operating the unit without valid consent from the complainant and for installing the dis - functional Pollution Control Device	Complainant	The unit had been penalized and now complying.
2.	C.R. No. 5/2017 Meghalaya State Pollution Control Board Vrs. M/s Shree Sai Smelters (P) Ltd.	Operating the unit without valid consent from the complainant and for installing the dis - functional Pollution Control Device	Complainant	The unit had been penalized and now complying.

The Cases above were disposed in favour of the Meghalaya State Pollution Control Board.

CHAPTER XIII

FINANCE & ACCOUNTS

The unaudited financial summary for the financial year 2018-19 reveals that during the said period, the State Board received a total amount of Rs.1140.76 Lakhs and total expenditure was Rs.917.79 Lakhs. The State Board earned its total revenue from different industrial units in Meghalaya on account of Consent Fees, Sale of Forms, Authorization Fees on Bio-medical/Hazardous Waste, Vehicle Emission Test, Water Sample Analysis etc. Grants received from State Government was utilized for payment of Pay and Allowances to the Officers/Staff and Establishment Expenditure of the Board. Development Scheme Grants was also received from State Government for various development activities. Grants and financial assistance was also received from Ministry of Environment & Forest and Climate Change, New Delhi and Central Pollution Control Board, New Delhi for various Projects and Schemes.

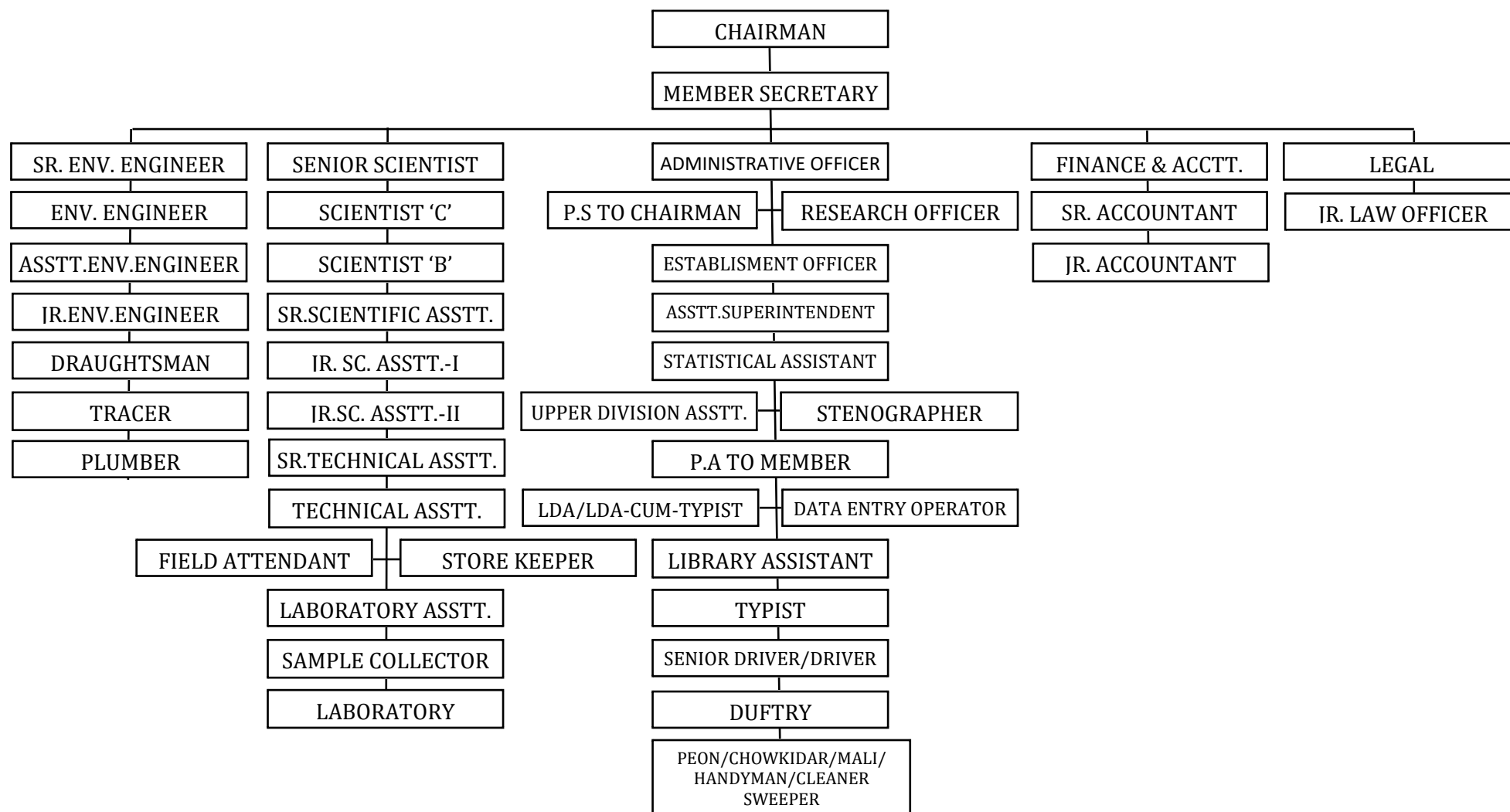
The financial summary of the Board's Account during the year 2018-2019 is as shown in the table below:

Status of Unaudited Financial Summary for the Financial Year 2018-19			
Sl. No.	Head of Accounts	Amount Rs. (in Lakhs)	
		Receipt	Expenditure
1	Revenue of the Board		
	i. Consent Fees, Sale of Forms, Authorization Fees Biomedical/Hazardous Waste, Vehicle Emission Test, Water Sample Analysis etc.	262.18	194.24
	ii. Bank Interest	40.28	
	Sub Total 1. (i & ii)	302.46	194.24
2	i. Grant-in-Aid, State Government (Salary)	440.00	520.44
	ii. Grant-in-Aid, State Government (Non-Salary) Establishment Expenditure	73.00	73.00
	Sub Total 2. (i & ii)	513.00	593.44
3	<i>State Government National Green Tribunal (NGT Committee Fund)</i>	115.61	26.94
4	Grant -in-Aid, State Government Development Scheme	0.00	0.00
5	Grant ,Financial Assistance Ministry of Environment & Forests and Climate Change New Delhi	84.00	0.00
6	Grant ,Financial Assistance Central Pollution Control Board, New Delhi	125.69	103.17
	Total (1 to 6)	1140.76	917.79

**STAFF POSITION OF
THE MEGHALAYA STATE POLLUTION CONTROL BOARD AS ON
31.03.2019**

BRANCH	SL. NO.	NAME OF THE POST	SANCTIONED STRENGTH	WORKING STRENGTH	VACANCY
TECHNICAL	1.	SENIOR ENVIRONMENTAL ENGINEER	1	1	0
	2.	ENVIRONMENTAL ENGINEER	2	2	0
	3.	ASSTT.ENVIRONMENTAL ENGINEER	7	6	1
	4.	JUNIOR ENVIRONMENTAL ENGINEER	1	1	0
	5.	DRAFTSMAN	1	1	0
	6.	TRACER	1	0	1
	7.	PLUMBER	1	1	0
L E G A L	1.	LEGAL OFFICER/ADVISER	1	0	1
	2.	JUNIOR LAW OFFICER	1	1	0
SCIENTIFIC	1.	SENIOR SCIENTIST	1	1	0
	2.	SCIENTIST-C	2	2	0
	3.	SCIENTIST-B	3	0	3
	4.	SENIOR SCIENTIFIC ASSTT.	3	1	2
	5.	JUNIOR SCIENTIFIC ASSTT. Gd I	4	2	2
	6.	JUNIOR SCIENTIFIC ASSTT. Gd II	3	3	0
	7.	SENIOR TECHNICAL ASSTT.	1	1	0
	8.	TECHNICAL ASSTT.	2	0	2
	9.	LABORATORY ASSTT.	4	2	2
	10.	STORE KEEPER	1	0	1
	11.	FIELD ATTENDANT	1	0	1
	12.	SAMPLE COLLECTOR	10	3	7
	13.	LAB. ATTENDANT	4	2	2
ADMINISTRATION & ACCOUNTS	1.	ADMINISTRATIVE OFFICER	1	0	1
	2.	FINANCE & ACCOUNTS OFFICER	1	0	1
	3.	PERSONAL ASSISTANT TO CHAIRMAN	1	0	1
	4.	RESEARCH OFFICER (Eco & Stat)	1	0	1
	5.	SENIOR ACCOUNTANT	1	0	1
	6.	ESTABLISHMENT OFFICER	1	1	0
	7.	ASSTT. SUPERINTENDENT	1	1	0
	8.	JUNIOR ACCOUNTANT	2	2	0
	9.	STATISTICAL ASSTT.	1	0	1
	10.	STENOGRAPHER	1	1	0
	11.	UPPER DIVISIONAL ASSTT.	4	4	0
	12.	P.A TO MEMBER SECRETARY	1	0	1
	13.	L.D.ASSTT	12	9	3
	14.	DATA ENTRY OPERATOR	2	2	0
	15.	TYPIST	4	2	2
	16.	LIBRARY ASSTT.	1	0	1
	17.	SENIOR DRIVER/DRIVER	10	6	4
	18.	PEON	19	12	7
	19.	MALI	1	0	1
	20.	DUFFTRY	1	1	0
	21.	HANDY MAN	1	0	1
	22.	CHOWKIDAR	3	3	0
	23.	CLEANER	2	1	1
	24.	SWEEPER	2	1	1
TOTAL			129	76	53

ORGANISATIONAL CHART



**CONSENT TO ESTABLISH/CONSENT TO OPERATE ISSUED
DURING THE YEAR 2018-2019**

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
1	EJH	M/s Emlangki Lamare Limestone Mine	Wahpynkon, Lumshnong Village	Limestone Mine	-	24-09-18
2	EJH	M/s Sweet Chilli Hotel	Mynkre	Hotel, Restaurant & Bar	03-08-18	13-12-18
3	EKH	M/s G. Car Wash	Pynthorbah, Shillong	Automobile Servicing Unit	06-08-18	-
4	EKH	M/s Ribok Snacks	Laitumkhrah	Restaurant	24-05-18	-
5	EKH	M/s Risa Lodge	Mawdiangdiang, Shillong	Lodge	02-05-18	-
6	EKH	M/s Diango Tech Patholab	Gita Bhawan Thana Road, Shillong	Laboratory	29-04-18	-
7	EKH	M/s Mithaas	Police Bazar Shillong	Restaurant	25-05-18	29-08-18
8	EKH	M/s Syrpai Automotive	Mawlai, Mawiongrim, Shillong	Automobile Showroom, Workshop & Servicing Unit	24-07-14	29-07-18
9	EKH	M/s Highland Toyota	Mawlai Mawiong	Car Sale and Service	02-05-12	29-06-18
10	EKH	M/S BNCS CAFÉ	Lower Lachumiere, Shillong	Restaurant	17-05-17	27-06-18
11	EKH	M/s The Cottage	Hopkinson Road, Lower Lachumiere Shillong	Guest House	07-02-18	07-06-18
12	EKH	M/s DR H. Gordon Roberts Hospital	Jaiaw, Shillong	Hospital	31-01-17	15-05-18
13	EKH	M/s Kilometre Lytan	Lum Kynjoin Mawpat	Hot Mix Batch Type Plant 60T/Hr	05-02-18	09-05-18
14	EKH	M/s A.P.R. Guest House	Lower Jail Road, Shillong	Guest House	14-11-17	30-04-18
15	EKH	M/s J.K.R. Residency	Cleve Colony, Shillong	Guest House	24-11-17	30-04-18
16	EKH	M/s The Pear Tree (B&B)	Lower Lachumiere, Shillong	Guest House	24-05-17	20-04-18
17	EKH	M/s Kynshew Package Drinking Water	Thangsning Village	Packaged Drinking Water	29-12-17	17-04-18
18	EKH	M/s Collin R.G. Syiem Package Drinking Water	Mawpdang	Package Drinking Water	02-08-16	16-04-18

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
19	EKH	M/s Kalpatru Tea Stall	Laitumkhrah	Restaurant	16-06-16	12-04-18
20	EKH	M/s Laundry Service of Woodland Hospital	Lakhotaa Lodge, Mawpun, Shillong	Laundry Service	13-10-17	04-04-18
21	EKH	M/s Lal Pathlabs Limited	Economic Medical Hall, Police Bazar	Diagnostic Laboratory	07-09-17	29-10-18
22	EKH	M/s Na I Mei Guest House	Kenches Trace, Laban	Guest House	17-09-18	31-10-18
23	EKH	M/s Serine Restaurant cum Bar	Mawlonghat, Shillong	Restaurant cum Bar	19-04-17	19-11-18
24	EKH	M/s Appa's Thali Restaurant	Police Point Laitumkhrah	Restaurant	07-02-18	26-11-18
25	EKH	M/s Goenka Engineering Works	Mawblei, Madanriting	Automobile Workshop	16-01-18	04-12-18
26	EKH	M/s Arun Motor Works	Keating Road, Shillong	Automobile Workshop	06-09-17	31-01-18
27	EKH	M/s Nats Restaurant	Laitumkhrah, Shillong	Restaurant	21-03-14	03-04-19
28	EKH	M/s Larsen & Toubro Ltd.	NEIGRIHMS Campus Mawdiangdiang	Concrete Batching Plant	22-01-18	16-04-19
29	WKH	M/s S. Rynthathiang Workshop	Pyndengumiong Mairang	Automobile Workshop	28-08-18	-
30	WKH	M/s S. Marngar Auto Repairing Workshop	Upper New Nongstoin	Automobile Workshop	16-08-18	-
31	WKH	M/s W. Nongrum Servicing Centre	Nondien, New Nongstoin	Automobile Servicing Unit	16-08-18	-
32	WKH	M/s N. Shangpliang, Trucks Mechanical-cum-Body Building & Repairing Workshop	Mawiaban, Siejlieh, Nongstoin	Automobile Workshop	13-08-18	-
33	WKH	M/s T. Tympuin Auto Mechanical Repairing	Siejlieh, Nongstoin	Automobile Workshop	09-08-18	-
34	WKH	M/s O. Nongsiej, Workshop-cum-Garage	Siejlieh, Nongstoin	Automobile Workshop-cum-Garage	09-08-18	-
35	WKH	M/s T. Wanniang Workshop	Siejlieh, Nongstoin	Automobile Workshop	09-08-18	-
36	WKH	M/s S. R. Thongni Workshop	Siejlieh, Nongstoin	Automobile Workshop	09-08-18	-

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
37	WKH	M/s S. K. Syntiew Workshop	Mission, Mairang	Automobile Workshop	15-06-18	-
38	WKH	M/s O. Kharbani Body Construction & Engine Service	Nondien, New Nongstoin	Automobile Workshop	15-06-18	-
39	WKH	M/s S. L. M Automobile Workshop	Pyndengumiong Mairang	Automobile Workshop	29-05-18	-
40	WKH	M/s L. L. Automobile Workshop	Pyndengumiong Langstieh Rim Mairang	Automobile Workshop	08-05-18	-
41	WKH	M/s B.S Motors Repairing & Body Building	Lumsyiem, Mairang Mission	Automobile Workshop	02-05-18	-
42	WKH	M/s I. Ryntathiang & Body Building	Mission, Mairang	Automobile Workshop	02-05-18	-
43	WKH	M/s Two Brother Repairing Workshop	Pyndengumiong Mairang	Automobile Workshop	02-05-18	-
44	WKH	M/s T. Kharthangmaw Workshop	Pyndengumiong Mairang	Automobile Workshop	01-05-18	-
45	SWKH	M/s New Motor Workshop	Mawmoitong, Mawkyrat	Automobile Workshop	15-01-19	20-06-19
46	WKH	M/s S. Nongsiej Motor Workshop	Tiehsaw, Nongstoin	Automobile Workshop	05-06-17	23-05-18
47	Ri-Bhoi	M/s Megha Mansions (P) Ltd.	8th Mile Baridua	Stone Crusher	10-08-18	-
48	Ri-Bhoi	M/s Dei Dakine Resort	Umbir, Umiam	Hotel	07-07-18	-
49	Ri-Bhoi	M/s K. L. Stones	Umduba Killing	Stone Crusher		01-10-18
50	Ri-Bhoi	M/s Prashanti Associates	Umtranga Barapathar	Stone Crusher	02-03-04	01-06-18
51	EGH	M/s Wilme Husking Mill	Ku.Simkolgre	Rice Husking Unit	10-04-18	-
52	WGH	M/s M.P Agarwal Stone Crusher	Rongdenggre	Stone Crusher	03-08-18	-
53	WGH	M/s Mokbul Hussain Stone Crusher	Tangaon P.O Haripur	Stone Crusher	29-06-18	-
54	WGH	M/s Rakarik Ro.ong Quarry 0.67 ha	Dapgiri Mangapara, P.O Zekabari	Stone Quarry	23-08-18	15-10-18

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
55	WGH	M/s K. Marak Stone Crusher	Mangapara	Stone Crusher	21-03-18	05-10-18
56	WGH	M/s Dilna Marasali Stone Crusher	Dilma Marasalli	Stone Crusher	09-08-18	06-09-18
57	WGH	M/s Kilmangittim Stone Mine 4 Ha	Kilmangittim P.O. Selsella, P.S Garobadah	Stone Quarry	16-05-18	29-06-18
58	WGH	M/s Dhanua Marasali Stone Quarry (1.28 Ha)	Dhauna, Marasali	Stone Quarry	03-05-18	16-05-18
59	WGH	M/s Sabraguri Stone Quarry (1.00 Ha)	Sabraguri	Stone Quarry	03-05-18	16-05-18
60	WGH	M/s Sweety Sangma	Barjhara, Dhanua	Stone Crusher		31-01-18
61	WGH	M/s P.R.M Stone Crusher	Matchok Chiringgre, Garobadaha	Stone Crusher	09-01-18	09-05-18
62	WGH	M/s B. M Marak Stone Crusher	Ujenggre, Zekabari	Stone Crusher	27-06-18	31-07-18
63	WGH	M/s Abdul Rashid Stone Crusher	Lalmati, Boldamgre	Stone Crusher	31-08-18	-
64	WJH	M/s Rural Resources & Fruit Processing Unit	Amsotai Village	Food Processing & Manufacturing Unit	12-07-18	-
65	WJH	M/s K. K. International (0.35 Ha)	Amsyndui, Nongtralang	Limestone Mining	02-01-18	24-08-18
66	WJH	M/s Broadway Hotel & Restaurant	New Hill, Jowai	Hotel & Restaurant	30-10-17	04-12-18
67	WJH	M/s Pine Breeze Guest House	Ialong	Guest House	25-11-16	13-12-18
68	EJH	M/s Rymbai Servicing Center	Khapmujat Tpep Pale	Automobile Servicing	09-10-18	-
69	EJH	M/s Starline Hotel and Restaurant	Ladrymbai, Datsimpian	Hotel	14-02-19	-
70	EJH	M/s Friends Hotel and Restaurant	Ladrymbai	Restaurant	14-02-19	-
71	EJH	M/s Hotel Hill View (Fooding)	Ladrymbai, Datsimpian	Restaurant	14-02-19	-
72	EJH	M/s Rajasthan Hotel	Ladrymbai, Near Jaintia Auto Agencies Petrol Pump	Restaurant	14-02-19	-

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
73	EJH	M/s Mootyngkrong Limestone Deposit	Mootyngkrong, Latyrke	Limestone Quarry	04-07-18	13-07-18
74	EJH	M/s Shnongrim Limestone Quarry	Shnongrim Village	Limestone Quarry	04-07-18	20-07-18
75	EJH	M/s Manner Limestone Mine	Mookyrdup	Limestone Quarry	31-08-18	11-09-18
76	EJH	M/s Yookani Passah Limestone Mine	Umkroh, Lumshnong	Limestone Quarry	06-09-18	09-10-18
77	EJH	M/s Wika Automobile Workshop	Khliehriat East	Automobile Workshop	11-07-18	16-10-18
78	EKH	M/s Smile Avenue Dental Clinic	Jaiaw, Near Dr. H. Gordon Roberts Hospital	Health Care Establishment	29-05-18	-
79	EKH	M/s Ayursundra Diagnostic Shillong	Laxmi Plaza, Qualapatty, Shillong	Health Care Establishment	30-05-18	-
80	EKH	M/s The Heritage Club-Tripura Castle	Cleve Colony, Shillong	Hotel	11-06-18	-
81	EKH	M/s Whispering Pine Guest House	Rilbong Kench's Trace, Shillong	Guest House	15-06-18	-
82	EKH	M/s Winnie's Lodge	Nongmensong, Shillong	Lodge	27-06-18	-
83	EKH	M/s Roinam Retreat	Umbir	Hotel	18-07-18	-
84	EKH	M/s Aashiyana Guest House	Kench's Trace	Guest House	11-09-18	-
85	EKH	M/s Nevin's Car Wash	Mawlai Mawdatbaki, Mali 1	Automobile Servicing	05-10-18	-
86	Ri-Bhoi	M/s Stone Quarry of Umlangpur	Umlangpur Elaka, Ri-Bhoi	Stone Quarry	-	26-04-18
87	Ri-Bhoi	M/s K. L. Stone Boulder Stone	Village Umduba, Killing, 9th Mile, Raid Marwet	Stone Quarry	10-09-18	11-12-18
88	Ri-Bhoi	M/s Donald's Pavers	Maikhuli	Pavers Block	22-10-18	-
89	Ri-Bhoi	M/s Paniram Narleng	Baridua Sitapathar	Stone Quarry	17-04-18	25-04-18

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
90	Ri-Bhoi	M/s Legacy Laboratories LLP	Esha Warehouse, Them Marwet, Khanapara, Near SBI Khanapara Branch, Meghalaya	Health Care Establishment (as defined in BMW Rules)	-	13-06-18
91	Ri-Bhoi	M/s Dhar Stone Crusher	9th Mile Killing	Stone Crusher	16-05-18	13-06-18
92	Ri-Bhoi	M/s Sosi Manar Crusher	Baridua, 9th Mile	Stone Crusher	23-05-18	27-06-18
93	Ri-Bhoi	Umduba Boulder Stone Mine	9th Mile, Raid Marwet	Stone Quarry	15-05-18	10-07-18
94	Ri-Bhoi	M/s Umduba Killing Stone Quarry of Shri Ngaitlang Dhar	Umduba Killing	Stone Quarry	16-05-18	13-07-18
95	Ri-Bhoi	M/s Stone Quarry of Balantina Doloi	Mairapur, Jirang Syiemship	Stone Quarry	12-04-18	27-07-18
96	Ri-Bhoi	M/s Summer Set Enterprise (Expansion)	Umnawe Killing	Stone Crusher	17-04-18	27-07-18
97	Ri-Bhoi	M/s Kedrina Jahrin Stone Crusher	Umnawe Killing,	Stone Crusher	16-05-18	21-09-18
98	Ri-Bhoi	M/s Biru Narleng Stone Quarry	Baridua, Pahamdohlun	Stone Quarry	09-08-18	21-09-18
99	Ri-Bhoi	M/s Ranjan Kro Stone Quarry	Tamulkuchi, 13th Mile, Byrnihat, Ri Bhoi District, Meghalaya	Stone Quarry	09-08-18	06-11-18
100	Ri-Bhoi	M/s Adorstar Thangkhiw Stone Crusher	Rani Jirang, Jirang Syiemship	Stone Crusher	06-09-18	21-11-18
101	Ri-Bhoi	M/s Dura Enterprise	Umduba, Killing	Stone Crusher	07-05-18	
102	Ri-Bhoi	M/s The Hareth	Sumer	Resort cum Restaurant	30-11-18	21-12-18
103	Ri-Bhoi	M/s Baridua Ordinary Clay and Boulder Stone Mine	Baridua Umdam, Raid Marwet	Stone Quarry & Ordinary Clay	22-11-18	-
104	Ri-Bhoi	M/s Automobile Servicing Centre	Mawdiangum, Nongpoh, Ri Bhoi District	Automobile Servicing	30-11-18	-
105	Ri-Bhoi	Stone Quarry of Shri Aibor Kshiar	Chibra, Umtyrnga Village	Stone Quarry	26-11-18	-
106	Ri-Bhoi	Stone Quarry of Shri Ishmeal Roy Wahlang	Village Mawkhap (Manikpur), Jirang Syiemship	Stone Quarry	27-11-18	-

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
107	SWGH	M/s J.R. Marak Stone Crusher	Wagopgre	Stone Crusher	06-11-18	-
108	WJH	M/s Phawa Car Wash	Mooralong, Jowai	Automobile Servicing	31-07-18	-
109	WJH	M/s Onassis Car Wash	Mooralong, Ladhlaboh, Jowai	Automobile Servicing	17-10-18	-
110	WJH	M/s Hyperfuse Restaurant	Chahngit, Iawmusiang, Jowai	Restaurant	15-02-19	-
111	WJH	M/s Shallam Car Wash	Khlieh Kyor Kaheng, Khliehtyrshi, Jowai	Automobile Servicing	08-03-19	-
112	WJH	Sahkhadu Limestone Quarry of Shri. Aron Myrchiang	Sahkhadu, Nongtalang Elaka	Limestone Quarry	-	04-04-18
113	WJH	M/s Limestone Quarry of Plenty K. Pyngrope	Thanghunai, Nongtalang Elaka	Limestone Quarry	-	04-04-18
114	WJH	Sahkhadu Limestone Quarry of Shri. Lahmon Tongper	Sahkhadu, Nongtalang Elaka	Limestone Quarry	-	04-04-18
115	WJH	M/s Morning Kassar Boulder Stone	Sohmynting, Jowai	Stone Quarry	-	10-04-18
116	WJH	M/s Lakareng Limestone Mine	Lakareng, Trangblang	Limestone Quarry	-	10-04-18
117	WJH	Lime Stone Mine of Shri Hemantam Pohtam	Amtuma, Nongtalang Elaka	Limestone Quarry	12-04-18	16-04-18
118	WJH	Lime Stone Mine of Shri. Obiweh Pohtam	Amsyndui, Nongtalang Elaka	Limestone Quarry	12-04-18	16-04-18
119	WJH	Lime Stone Mine of Smt. Aldrina Nonglamin	Nonglynrong, Nongtalang Elaka	Limestone Quarry	12-04-18	16-04-18
120	WJH	M/s Boulder Stone Quarry of Shri Costerfield Suting	Sohmynting, Khliehriat Pynthor Luti Dkhar	Stone Quarry	16-04-18	26-04-18
121	WJH	M/s Boulder Stone (Sand Stone) Mine	Mukhla Sohshrieh	Stone Quarry	-	04-05-18
122	WJH	M/s Amkapai Limestone Quarry	Amkapai Elaka Nongtalang	Limestone Quarry	23-05-18	28-05-18
123	WJH	M/s Wahiajer Boulder Stone Mine	Wahiajer, Jowai	Stone Quarry	24-05-18	28-05-18
124	WJH	M/s Dummaw Boulder Stone (Sand Stone) Deposit	Dummaw Niriang	Stone Quarry	24-05-18	21-06-18

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
125	WJH	M/s P. R. Car Wash	Lulong, Jowai	Automobile Servicing	-	10-07-18
126	WJH	M/s Rymbai Car Wash	Khapmujat, Tpep Pale	Automobile Servicing	-	10-07-18
127	WJH	M/s Briwon Pohshna	Lumbhahdhaka, Wahiajer, Ummulong	Stone Quarry	29-06-18	20-07-18
128	WJH	M/s P.B Bang Car Wash	Salaroh Jowai,	Automobile Servicing	-	31-07-18
129	WJH	M/s Paradiso Restaurant	Iawmusiang, Jowai	Restaurant	20-04-18	24-08-18
130	WJH	M/s Emdor Rymbai Boulder Stone Quarry	Lum Saitsaphlang, Khliehtyrshi	Stone Quarry	-	12-09-18
131	WJH	M/s Riat Wa-eh Stone Quarry	Riat Wa-eh, Niriang	Stone Quarry	27-08-18	14-09-18
132	WJH	M/s Boulder Stone Quarry of Salah Mynjrai	Salah Mynjrai	Stone Quarry	14-09-18	04-10-18
133	WJH	M/s Moodymmmai Stone Quarry	Khliehpohlum, Moodymmmai	Stone Quarry	29-11-18	13-12-18
134	EGH	M/s Tetenggrim Boulder Stone Mine	Tetenggrim	Stone Quarry	-	21-08-18
135	SWKH	M/s Bagli Limestone Mine 4.99 Ha	Bagli	Limestone Quarry	27-11-18	11-12-18
136	SWKH	M/s Bagli Limestone Mine 4.80 Ha	Bagli	Limestone Quarry	27-11-18	11-12-18
137	SWKH	M/s Khonjoy Limestone Mine	Khonjoy, Bagli	Limestone Quarry	29-11-18	14-01-19
138	SWKH	M/s Edina R. M. Lyngdoh	Khonjoy, Bagli	Limestone Quarry	17-12-18	29-01-19
139	SWKH	M/s Evening Basaiawmoit Limestone Quarry	Bagli	Limestone Quarry	15-01-19	29-01-19
140	SWKH	M/s Bagli Limestone Quarry of Shri Christopher Rani	Bagli	Limestone Quarry	21-12-18	26-03-19
141	WGH	M/s M. R. Marak Stone Crusher	Bollongre	Stone Crusher	-	23-05-18
142	WGH	M/s S. R. Marak Stone Crusher	Bollongre	Stone Crusher	-	23-05-18

Sl. No	District	Name of Firm	Address	Type of Industry	CTE	CTO
143	WGH	M/s P.K and Company	Chondonpara	Stone Crusher	27-08-18	16-11-18
144	WGH	M/s Stone Quarry of Matchanokpante	Matchanokpante	Stone Quarry	29-11-18	10-01-19
145	WGH	M/s Ali Asgar Stone Crusher	Vill Manggapara, P.O- Zika Bari, Dhapgi	Stone Crusher	27-08-18	14-01-19
146	WGH	M/s Stone Quarry of Jongkipara	Jongkipara (Sewraguri)	Stone Quarry	14-01-19	31-01-19
147	WGH	M/s Janison Ch. Marak Stone Quarry	Manggapara	Stone Quarry	18-01-19	13-02-19
148	WGH	M/s Walkamgre Stone Quarry	Walkamgre	Stone Quarry	14-02-19	26-03-19
149	WGH	M/s Matchok Chiringgre Stone Quarry	Matchok Chiringgre	Stone Quarry	30-03-19	26-03-19
150	WGH	M/s Stone Quarry of Galamatgre	Galamatgre	Stone Quarry	30-03-19	-

ANNEXURE-4

RENEWAL OF CONSENT TO ESTABLISH/CONSENT TO OPERATE ISSUED DURING THE YEAR 2018-2019

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
1	WJH	Jowai Civil Hospital	Ialong	Hospital	09-08-18	
2	EGH	Williamnagar Civil Hospital	Williamnagar	Hospital	09-08-18	
3	WGH	Tura Civil Hospital	Tura	Hospital	25-06-18	
4	WGH	The Director of Meghalaya Animal Husbandary & Veterinary	Adugre, Tura	Slaughter House	17-05-18	
5	WJH	The Director of Meghalaya Animal Husbandary & Veterinary	Wahradhoh Demthring	Slaughter House	17-05-18	

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
6	EJH	M/s Star Cement Meghalaya Ltd	Lumshnong	1) Clinker Manufacturing Unit & 2) Captive Power Plant	08-06-11	31-01-19
7	EKH	M/s O.B. Hotel	Laitumkhrah Main Road, Shillong	Hotel & Restaurant	28-11-12	26-07-18
8	EKH	M/s Pash K. Re Guest House	Bishop Cotton Road, Shillong	Guest House		22-01-19
9	Ri-Bhoi	M/s Bethany Hospital Outreach	Nongpoh	Hospital		03-01-19
10	EKH	M/s Jubilant Foodworks Ltd. (Domino Pizza)	Thana Road, Shillong	Restaurant	07-04-17	04-01-19
11	EKH	M/s Golden Earth Hotel-Cum Restaurant	Thana Road, Shillong	Hotel & Restaurant		05-07-18
12	EKH	M/s L. Suting Lime Kiln	Phyllut, Nongthymmai-Mawsmmai	Lime Kiln Unit		25-04-18
13	WGH	M/s Megha Stone Crusher	Roushanpara, West Garo Hills District	Stone Crusher		07-08-18
14	EKH	Bethany Hospital	Nongrim Hills Shillong	Hospital	23-06-17	04-01-19
15	SWGH	M/S BSCPL Infrastructure Ltd.	Niringini, P.O-Betasingh	(i) Wet Mix Plant (ii) Hot Mix Batch Type Plant (iii) Concrete Batching Plant & (iv) Stone Crusher		10-01-19
16	EKH	EEE CEE Restaurant	Police Bazar, Shillong	Restaurant		26-04-16
17	WJH	M/s G.H.M Guest House	Caroline Colony, Jowai	Hotel cum Restaurant		14-01-19
18	WGH	M/s Onycon Engineers	Chibagre, Rongram	Stone Crusher		18-01-19
19	WGH	M/s M.R.M Stone Crusher	Manggapara, PO Zekabari	Stone Crusher		14-09-18
20	EKH	M/s Lyngdoh Lime Kiln	Mawsmmai	Lime Kiln Unit		22-01-19
21	WGH	M/s Dilna Marasali Stone Crusher	Dilma Marasalli	Stone Crusher		22-01-19
22	EKH	M/s The Childrens' Hospital	Pohksech, Nongthymmai Shillong	Hospital	03-08-17	16-07-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
23	EKH	M/s Kalpatru Tea Stall	Laitumkhrach, Shillong	Restaurant		25-02-19
24	Ri-Bhoi	M/s Regetta Food Private Limited	Umiam Industrial Estate, Barapani	Meat Processing Unit	06-12-04	22-01-19
25	Ri-Bhoi	M/s Ri-Kynjai-Serenity By The Lake	Umniuh Khwan, Barapani	Hotel		22-01-19
26	Ri-Bhoi	M/s Ecopure Stone Crusher	Umduba Killing, Raid Marwet	Stone Crusher		15-02-19
27	Ri-Bhoi	M/s Megha Stone Crusher	Jorbid, Killing	Stone Crusher		08-03-19
28	WGH	M/s Sweety Sangma	Barjhara, Dhanua	Stone Crusher		04-02-19
29	EKH	M/s HEIGA Hotel	Upper Lachumiere	Hotel & Restaurant		08-03-19
30	EKH	M/s Nazareth Hospital	Laitumkhrach	Hospital		23-10-18
31	EKH	M/s Heal & Smile Dental & Medical Centre	Laitumkhrach Main Road, Shillong	Diagnostic Centre		22-10-18
32	EKH	M/s Hotel Shantiniketan	Thana Road, Shillong	Hotel		22-10-18
33	EKH	M/s Hotel Grace	Jail Road Police Bazar	Hotel		12-10-18
34	EKH	M/s Centre Point Hotel	Police Bazar	Hotel, Restaurant, Bar		08-09-18
35	SWGH	M/s K.D.S Bricks Industries	Dalupara, Mukdangra	Brick Kiln		05-10-18
36	SWGH	M/s R.N.A. Brick Klin	Sonamati, Garobadha	Brick Klin		05-10-18
37	SWGH	M/s R.D.S Bricks	Bolgangre	Brick Klin		05-10-18
38	SWGH	M/s Kolpo Bricks	Damalgre	Brick Kiln		05-10-18
39	SWGH	M/s B.B.I Bricks, Ashok Singh	Bolgangre, Mukdangra	Brick Kiln		05-10-18
40	EKH	M/s Greenland Hotel	Jail Road	Lodge		05-10-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
41	WGH	M/s Sundare Hotel	Circular Road, Tura	Hotel & Restaurant		22-01-19
42	EKH	M/s Pinewood Hotel	European Road, Rita Road, Shillong	Hotel Cum Restaurant		23-01-19
43	EKH	M/s Orchid Hotel	Polo, Shillong	Hotel Cum Restaurant		23-01-19
44	EJH	M/s B. Shadap Stone Crusher	Dkhiah	Stone Crusher		25-09-18
45	WJH	MeSEB Meghalaya Power Generation Corporation Ltd. (Leshka)	Myntdu (Leshka)	Hydro Electric Project (Stage-I)	24-04-09	24-09-18
46	EKH	M/s Mawmluh Cherra Cements Ltd. MCCL	Mawmluh Cherrapunjee (Expansion)	Cement Plant	12-03-15	20-09-18
47	EJH	M/s Jaintia Cements Limited	Tohsniang, Latyrke, Sutnga Elaka	Cements Manufacturing	02-02-15	17-09-18
48	WGH	M/s Sengkal Sangma Stone Crusher	Bangranggre, Machangpani	Stone Crusher		04-02-19
49	EKH	M/s Monsoon Hotel	Police Bazar Shillong	Hotel & Restaurant		13-09-18
50	Ri-Bhoi	Tea Development Centre	Umsning	Mini Tea Processing Unit		13-09-18
51	EKH	M/s Majestic Hotel	Polo Hill, Shillong	Hotel & Restaurant		13-09-18
52	EKH	M/s Swad Suruchi	Police Bazar (M.T.C. Building) Jail Road, Shillong	Restaurant		23-01-19
53	Ri-Bhoi	M/s CMJ Breweries (P). Ltd.	EPIP New Industrial Area, Byrnihat	IMFL Bottling Plant		12-09-18
54	EKH	M/s Paul Restaurant	Thana Road, Police Bazar	Restaurant		23-01-19
55	EKH	M/s State Convention Centre	Bishop Cotton Road, Shillong	Hotel cum Dining		04-02-19
56	EJH	M/s Meghalaya Power Ltd.	Lumshnong	8 MW Coal Based Thermal Power Plant		06-09-18
57	WJH	Rasongsli Nursing Home	Amshipai Village	Hospital		06-09-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
58	Ri-Bhoi	M/s F.W. Ferrotech (P) Ltd.	EPIP, Byrnihat	Re-Rolling Expansion of M.S. Unit from 31100 TPA to 40000 TPA and M.S. Flats/M.S. Angles from 9000 TPA to 11880 TPA		06 -02-19
59	WGH	M/s R.P.S Bricks Factory	Garobadha	Brick Kiln		07-02-19
60	EKH	M/s BSC-C7C 'JV'	Mawskhop Village, Rangskhen	Concrete Batching Unit 30Cu. Meter/Hr		04-09-18
61	EKH	M/s Mawmluh Cherra Cements Ltd. 136.67 Ha	Mawmluh Cherrapunjee	Lime Stone Mining	12-03-15	12-02-19
62	Ri-Bhoi	M/s Nezone Pipes & Structures	Extended EPIP, New Industrial Area, Lower Balian, Byrnihat	M.S Black & G.I Pipe, M.S Pole & Structure		13-02-19
63	WGH	M/s Ruma Saha Stone Crusher	Jeldupara Panbari	Stone Crusher		13-02-19
64	EKH	M/s Jubilant Foodworks Ltd.	Laitumkhrah	Food Processing Unit (Dominos Pizza)		27-08-18
65	EKH	M/s Roy & Sharma Workshop	Keating Road, Shillong	Automobile Body Construction Workshop		16-08-18
66	Ri-Bhoi	M/s Mahabir Foods Ltd.	13th Mile, Byrnihat		10-03-06	13-02-19
67	Ri-Bhoi	M/s Umduba Stone Quarry of Jamda Sangma	Umduba Killing	Stone Quarry		13-02-19
68	Ri-Bhoi	M/s Meghalaya Bitchem (P) Ltd.	9th Mile, Killing, Byrnihat	Bitchem Manufacturing		09-08-18
69	WGH	M/s Megha Stone Industries	Roushanpara	Stone Crusher		07-08-18
70	EJH	M/s Goldstone Cements Ltd.	Umlaper, Elaka Rymbai	0.88 Million Tones per annum Cement Plant alongwith 30 MW Captive Power Plant		06-08-18
71	EJH	M/s Star Cement Cements Manufacturing Co. Ltd.	Wahpynkon Limestone at Lumshnong	Limestone Mine		06-08-18
72	EJH	M/s Star Cement Cements Manufacturing Co. Ltd.	Lumshnong	LimeStone Mine 70 Ha.		06-08-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
73	EJH	M/s Meghalaya Power Ltd.	Lumshnong, Elaka Narpuh	Imported Coal Based Thermal Power Plant		06-08-18
74	EKH	M/s Hotel Sapphire	Keating Road, Shillong	Hotel		03-08-18
75	NGH	M/s Supertech Conbrit Industries	Adokgre	Fly Ash Based Bricks, Concrete Tiles & Pavers & Hollow Blocks		03-08-18
76	EKH	M/s Ashirwaad Sweets	Laitumkhrah	Tea Stall		14-02-19
77	EJH	M/s Meghalaya Minerals & Mines Ltd.	Lumshnong	Limestone Crushing Unit		01-08-18
78	Ri-Bhoi	M/s Aumz Industries	20th Mile, Paham Mawlein	Veneer & Saw Timber Waste Grinding Unit		01-08-18
79	EKH	M/s Bozez Automobile Workshop	Demthring, Shillong	Automobile Workshop		31-07-18
80	Ri-Bhoi	M/s Godrej Consumer Products Ltd.	15th Mile, Byrnihat	Hot Water Generator		14-02-19
81	Ri-Bhoi	M/s Riangdo Veneer Pvt. Ltd. (Dryer Unit)	Uniam Industrial Area	Veneer Drying Unit		30-07-18
82	Ri-Bhoi	M/s Shyam Century Ferrous Limited	E.P.I.P, Byrnihat	Ferro Silicon Manufacturing Unit		15-02-19
83	EKH	M/s Sanker Rehabilitation Centre	Mawlai Mawroh	Hospital		27-07-18
84	Ri-Bhoi	M/s Shyam Century Ferrous Limited	E.P.I.P, Byrnihat	Captive Power Plant	12-07-05	15-02-19
85	EKH	M/s Hotel Poinisuk	Laitumkhrah Mainroad	Hotel & Restaurant		26-07-18
86	WGH	M/s Fridina Stone Crusher Unit	Chatibhui, Tura	Stone Crusher		26-07-18
87	EKH	M/s Café Eat Hotbox Restaurant	Police Bazar, Shillong	Restaurant		18-02-19
88	Ri-Bhoi	M/s Khasi Alloys Ltd.	EPIP, Byrnihat	Ferro Silicon Manufacturing Unit	30-09-16	18-02-19
89	EKH	M/s Servell Enterprise	Jingkieng, Nongthymmai	Automobile Workshop	09-06-04	16-07-18
90	EJH	M/s Meghalaya Cements Ltd.	Thangskai Village	Native Down Draft Furnance (Clay Bhatta)		13-07-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
91	EKH	M/s Everest Restaurant	Umsohsun Road	Restaurant		18-02-19
92	EKH	M/s K.D. Enterprise	Garikhana, Shillong	Package Mineral/ Drinking Water		11-07-18
93	EKH	M/s Frank Yamaha	Nongthymmai, Shillong	Two Wheelers Servicing		11-07-18
94	EKH	M/s Hotel Highway Inn	Laitumkhrach, Shillong	Hotel		11-07-18
95	EJH	M/s Dalmia Bharat Cement Adhunik Cement Limited	Mootang, Thangskai, Narpuh Elaka	Cement Plant		25-02-19
96	Ri-Bhoi	M/s Godrej Sara Lee Ltd.	13th Mile , Byrnihat	Mosquito Repellent Manufacturing Unit		25-02-19
97	EKH	M/s Pratima Hotel	Laitumkhrach Shillong	Restaurant		26-11-18
98	EKH	M/s Sharawn Tea	Sohryngkham	Tea Processing Unit	12-05-14	27-06-18
99	EKH	M/s R. Down Hill City Guest House	Anjad Ali Road, Laban	Guest House		27-06-18
100	EKH	M/s The Wok	Lachumiere	Restaurant		25-06-18
101	EKH	M/s City Wok	Lumsophoh, Shillong	Restaurant		25-06-18
102	EKH	M/s The Wok	Lumawrie	Restaurant		25-06-18
103	EKH	M/s Yalana Hotel	Laitumkhrach Shillong	Hotel/Restaurant/Bar		26-11-18
104	Ri-Bhoi	M/s Lodri Lyngdoh Saw-cum-Veneer	Uniam Industrial Area	Saw Mill		25-06-18
105	Ri-Bhoi	M/s Sriram Wires Products (Meghalaya)	13th Mile, Tamulkuchi, Byrnihat	Black Wire Manufacturing		21-06-18
106	WKH	M/s Shakambari Ferro Alloys (P) Ltd.	Rwiang, Seinduly	Ferro Alloy		12-06-18
107	EKH	M/s Hotel Pegasus Crown	Wards Lake Road, Police Bazar Shillong	Hotel		25-05-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
108	Ri-Bhoi	M/s A. D. Aggregate Crusher	Barapathar	Stone Crusher		01-11-18
109	SWGH	M/s Kallu Valley Bricks Industry (Das)	Asinagre	Brick Kiln		31-10-18
110	SWGH	M/s M.A.S. Bricks Factory	Sonamati, Garobadha	Brick Kiln		31-10-18
111	Ri-Bhoi	M/s Silverstone Crushing Enterprise	Barapathar	Stone Crusher		27-11-18
112	EKH	M/s Arun Motor Works	Keating Road, Shillong	Automobile Workshop		15-11-18
113	EJH	M/s Meghalaya Cements Ltd.	Village Thangskai	Coal Based Captive Power Plant		16-11-18
114	EJH	M/s Meghalaya Cements Ltd. (Area 4.9 Ha)	Rymbai Syndem, Thangskai	Lime Stone Mining		16-11-18
115	WGH	M/s Good Luck Coal Export - (I)	Berjhora	Stone Crushing Unit		22-11-18
116	WGH	M/s Good Luck Coal Export - (II)	Rochupara	Stone Crushing Unit		22-11-18
117	WGH	M/s Good Luck Coal Export	Hallidayganj	Stone Crusher		22-11-18
118	WGH	M/s Rajkamal Hotel	Fancy Valley, Tura	Hotel		22-11-18
119	Ri-Bhoi	M/s Seshu Nutrition (P) Ltd.	9th Mile, Baridua	Energy Food	25-07-08	26-11-18
120	Ri-Bhoi	M/s Anderson Tea Processing Factory	Umran Dairy	Tea Processing Unit		20-04-18
121	EKH	M/s A. S. Kynta Automobile Workshop	Mawir, Nongrim Sohra	Automobile Servicing Unit	25-08-08	28-11-18
122	Ri-Bhoi	M/s Shillong ISPAT & Rolling Mill	13th Mile, Tamulkuchi, Byrnihat	M.S. Ingot & M.S. Rolled Unit		28-11-18
123	Ri-Bhoi	M/s Ri-Bhoi Ispat & Rolling Mills	13th Mile Tamulkuchi	M.S Ingots		29-11-18
124	Ri-Bhoi	M/s CMJ Breweries (P) Limited	New Industrial Area, Byrnihat	Grain Based Distillery Plant with Co-Generation Power Plant		30-11-18
125	WKH	M/s Marwein Fruits & Beverages	Kynshi Bangla	Packaged Mineral/Drinking Water Unit		13-12-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
126	WGH	M/s Bokto Zaman Stone Crusher	Tangaon	Stone Crusher	27-03-06	19-12-18
127	EKH	M/s Woodland Hospital	Dhankheti, Shillong	Hospital		20-12-18
128	EJH	M/s Megha Technical & Engineers (P) Ltd.	Lumshnong Village	DG Sets		11-04-18
129	Ri-Bhoi	M/s Marwet Bottling Industries	Them Marwet	IMFL Bottling	03-03-14	11-04-18
130	EKH	M/s Bansara Eye Care	Laitumkhrach, Lady Veronica Lane	Hospital		18-02-19
131	Ri-Bhoi	M/s Excel Foods	10th Mile Mawsmi	Noodle Producing Unit		20-03-19
132	Ri-Bhoi	M/s Megwood Solutions Pvt. Ltd.	15th Mile, Byrnihat	Briquettes Unit		05-03-19
133	Ri-Bhoi	M/s Vikash Saw Cum Veneer Mill	Uniam Industrial Area	Saw Mill		02-03-19
134	Ri-Bhoi	M/s Sukrit Concrete Products (P) Ltd.	13th Mile, Tamulkuchi, Byrnihat	Stone Crusher		07-03-19
135	Ri-Bhoi	M/s Shyam Foods	Killing	Bakery Unit		07-03-19
136	Ri-Bhoi	M/s Dyna Roof Pvt. Ltd.	10th Mile, Mawsmi	Corrugated and Ridging		07-03-19
137	Ri-Bhoi	M/s Barapathar Stone Quarry	Barapathar	Stone Quarry		07-03-19
138	Ri-Bhoi	M/s Diroda Lapang Crusher	Jirang Basti	Stone Crusher		07-03-19
139	Ri-Bhoi	M/s Martina Tariang Stone Crusher	Chutta Killing, Khanapara	Stone Crusher		08-03-19
140	Ri-Bhoi	M/s NTL Steels	EPIP, Byrnihat	1) Galvanising Octagonal Steel Poles, 2) Tubular Steel Poles 3) Galvanised Steel Structures		11-03-19
141	EKH	M/s Unique Sweets & Snacks	Police Bazar	Restaurant		19-03-19
142	WKH	M/s Shakambari Ferro Alloys (P) Ltd.	Rwiang, Seinduly	Captive Power Plant		27-03-19

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
143	Ri-Bhoi	M/s RNB Carbide Ltd.	EPIP, Industrial Umiam	Ferrosilicon		29-03-19
144	WGH	M/s A. Stone Quarry Unit 1.28 Ha	Mangngapara, Zekabari	Stone Quarry		03-03-19
145	WGH	M/s West Garo Hills Tea Farmers Federation	Rongram	Tea Processing Unit		30-03-19
146	WGH	M/s Marak Stone Quarry	Mangngapara Zikabari	Stone Quarry		30-03-19
147	Ri-Bhoi	M/s Shillong Veneer & Sawmill Pvt. Ltd.	Umiam Industrial Estate	Saw Cum Veneer Mill	27-03-07	03-03-19
148	Ri-Bhoi	M/s Broming Con-Aid	Norbong, Byrnihat	1) Water Proofing Compound, 2) Cement Adhesive Unit		30-03-19
149	Ri-Bhoi	M/s Eastern Saw Mill	Umiam Industrial Area	Saw Cum Veneer Mill		30-03-19
150	Ri-Bhoi	M/s Girik Briquettes Pvt. Ltd.	Umiam Industrial Area	Briquettes Unit		30-03-19
151	EKH	M/s Goenka Engineering Works	Keating Road, Shillong	Automobile Workshop cum Servicing Centre		30-03-19
152	EJH	M/s Meghalaya Cements	Thangskai Village	Native Down Draft Furnance (Clay Bhatta No. 2)		13-07-18
153	EJH	M/s Dalmia Cement (Bharat) Ltd. (Adhunik Cement Limited)	Mootang, Thangskai, Narpuh Elaka	Cement Plant	14-01-14	24-01-19
154	WGH	M/s G. Marak Stone Crusher	Bollongree PO Dhanua	Stone Crusher		14-03-19
155	Ri-Bhoi	M/s Pine Polypacks	Umiam Industrial Area, Barapani	Package Drinking Water Unit	18-05-15	02-08-18
156	WGH	M/s Himbath M. Sangma	Champakpara	Stone Crusher		11-04-18
157	WGH	M/s A. Stone Crusher	Wakrugre	Stone Crusher		13-07-18
158	Ri-Bhoi	M/s Milestone Beverages (P) Ltd.	15th Mile, Byrnihat	IMFL Bottling		10-08-18
159	Ri-Bhoi	M/s Umadutt Industries	Amjok Byrnihat	PU Foam Unit		18-05-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
160	WKH	M/s BSC-C7C 'JV'	Kynshi Village (Camp -I)	Wet Mix Plant, Hot Mix Batch Type Plant, Concrete Batching Plant, Stone Crusher		11-06-18
161	EJH	M/s Adhunik Cements Ltd. 4.90 Ha Limestone Mine Block - III	Thangskai	Limestone Mining Block-III	06-06-16	23-04-18
162	Ri-Bhoi	M/s Nezone Fragrance Pvt. Ltd.	12th Mile, Byrnihat	(i) Sawdust/ Bamboo Dust (ii) Agarbati Powder (iii) Mosquito Repellant Unit	05-10-15	12-09-18
163	WJH	M/s Calm Mineral Water	Nongtalang Village	Packaged Drinking Water		01-10-18
164	EJH	M/s G.R. Infraprojects Limited	Mynkre Village	Stone Crusher & Wet Mix Macadam Plant		26-09-18
165	Ri-Bhoi	M/s CMJ Breweries (P) Limited	EPIP New Industrial Area, Lower Balian, Byrnihat	Brewery Plant		21-09-18
166	WGH	M/s Ruther D. Sangma S.R.S Brick Kiln Industry	Dorambokgre, Po Mukdangla,	Brick Kiln		07-09-18
167	WGH	M/s W. R. M. Stone Crusher	Zakabari	Stone Crusher		30-08-18
168	WGH	M/s P.K. & Company Stone Crusher	Aphalgre	Stone Crusher		29-08-18
169	EKH	M/s Scooter Repair Workshop	Keating Road, Shillong.	Scooter Repairing Workshop	14-03-06	14-08-18
170	WGH	M/s Phillips Tyres	Nakham Bazar, Tura	Tyre Retreading		03-08-18
171	EKH	M/s Ashok Engineering Works	Lower Maxwellton Compound, Kenchs Trace	Automobile Workshop		26-06-19
172	EKH	M/s Hope Diagnostic Centre	Mawlai Mawdatbaki	Diagnostic Centre Cum Clinic	04-06-08	27-07-18
173	EKH	M/s Komorrah Limestone Mining Co. Ltd.	Komorrah	Limestone Mines		20-07-18
174	Ri-Bhoi	M/s Megha Cashew (P) Ltd.	EPIP, Byrnihat	Cashewnut Making Unit		20-07-18
175	WJH	M/s Dr. Norman Tunnel Hospital	Jowai	Hospital		13-07-18
176	Ri-Bhoi	M/s Maithan Alloys Ltd.	EPIP, Byrnihat	(i) Silico Manganese (ii) Ferro Manganese (iii) Ferro Silicon	18-11-08	26-06-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
177	Ri-Bhoi	M/s Uranus Stone Products & Co.	Killing, Raid Marwet	Stone Crusher		28-06-18
178	WGH	M/s Skybath Sangma Stone Crusher	Jongkipara Dhanua	Stone Crusher		28-06-18
179	Ri-Bhoi	M/s J. Saw & Mill Ltd.	15th Mile, Byrnihat	Saw-cum-Veneer Mill		25-06-18
180	Ri-Bhoi	Meghalaya State Electricity Board/Meghalaya Power Generation Corporation Ltd, Umiam-Umtru Stage - III	Kyrdemkulai	Hydro Electric Project		09-10-18
181	WGH	M/s P.K.S. Bricks	Addangri, Dalu	Brick Kiln		06-06-18
182	Ri-Bhoi	M/s Sriram Fasteners	Tamulkuchi	M.S. Bolt, M.S. Nut, M.S Torkai, Barbed Wire, Chain Lin Fence Unit		24-05-18
183	Ri-Bhoi	M/s Umadutt Industries	Amjok, Byrnihat	Polyurethane Foam & Foam Products Making Unit		18-05-18
184	EJH	M/s Meghalaya Cements Limited	Thangskai Village	Native Down Draft Furnace (Clay Bhatta)		18-05-18
185	EKH	M/s S. Larry Rymbai Stone Crusher	Lamlyer, Jarian Khyrim Syiemship	Stone Crusher		16-05-18
186	Ri-Bhoi	M/s North East Powerline Industries	Baridua	Assembly Unit (D.G. Sets, Pump Sets, Transformers & Other Electrical Appliances)		16-05-18
187	WGH	M/s Paramount Complex/Resort	Tura	Hotel		15-05-18
188	EJH	M/s Adhunik Cement Ltd. 4.9 Ha Block IV	Thangskai Village	4.9 Ha Limestone Mining Block-IV		15-05-18
189	Ri-Bhoi	M/s Seven Sisters Plastics(P) Ltd.	Amjok, Umtra Road, Byrnihat	HDPE & PP Woven Bags Manufacturing Unit	12-06-13	07-05-18
190	Ri-Bhoi	M/s Megha Foods Products	9th Mile Baridua	Poultry and other Animal Feed		07-03-19
191	EJH	M/s Megha Technical & Engineers (P) Ltd.	Lumshnong Village	Clinker Grinding Unit		03-05-18

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
192	EKH	M/s Teilang Kharbuki Automobile Workshop	Mawlai Nongkwar, Block-13, Shillong	Automobile Workshop		30-04-18
193	Ri-Bhoi	M/s Maithan Alloys Ltd.	EPIP, Byrnihat	Captive Power Plant	04-02-09	27-04-18
194	WGH	M/s Abdus Shahid Stone Crusher	Jewali	Stone Crusher		30-03-19
195	Ri-Bhoi	M/s Megha Polycon (P) Ltd.	EPIP, Byrnihat	HDPE/LLDPE, Water Storage Tank Manufacturing Unit		24-04-18
196	EJH	M/s Adhunik Cements Ltd.	Thangskai	Limestone Mining Block-III		23-04-18
197	Ri-Bhoi	M/s Meghalaya Cast And Alloys (P) Ltd.	Harlibagan, Byrnihat	M.S Ingot Manufacturing Unit of capacity 34320 TPA		20-04-18
198	WGH	M/s Chesa Automobile Workshop	Matchikolgre, Tura	Automobile Workshop		12-04-18
199	Ri-Bhoi	M/s K.K. Beverages (P) Limited	Khanapara, 9 th Mile	Packaged Drinking Water & Carbonated Drinks Manufacturing Unit		11-04-18
200	Ri-Bhoi	M/s Godrej Consumer Products Ltd.	15th Mile, Byrnihat	D.G Set		18-02-19
201	WGH	M/s A. R. Cashewnut Industry	Soliartaka, Phulbari	Cashewnut Making Unit	15-02-07	10-04-18
202	WGH	M/s Marak Stone Crusher	Mangapara Zekabari	Stone Crusher		26-03-19
203	EKH	M/s Lafarge Umiam Mining Pvt. Ltd. 4.9 Ha	Nongtra, Shella Elaka	Shale & Siltstone Mine		05-06-18
204	Ri-Bhoi	M/s Orion Health Food Pvt. Ltd.	EPIP, Byrnihat	Ready to Eat Food Manufacturing Unit		16-11-18
205	EKH	M/s Kmel Nongbri Stone Crusher	Mawtepskum, Mawmaram	Stone Crusher		30-11-18
206	Ri-Bhoi	M/s Timpack (P) Ltd.	15th Mile, Byrnihat	Bamboo Based Industry		04-12-18
207	EJH	M/s Dalmia Cement (Bharat) Ltd. (Adhunik Cements Ltd.) 128.52 Ha	Thangskai, East Jaintia Hills District	Limestone Mining Block-V	01-06-16	18-04-18
208	EKH	Ganesh Das Hospital, Shillong	Pasteur Hill, Lawmali	Hospital	13-07-18	

Sl. No.	District	Name of Firm	Address	Type of Industry	Renewal CTE	Renewal CTO
209	EKH	Meghalaya Institute of Mental Health and Neurological Science	Pasteur Hill, Lawmali	Hospital	12-07-18	
210	Ri-Bhoi	M/s Shillong Fresh Water	Paham Mawlein, 20th Mille	Package Drinking Water Unit	30-03-19	
211	SWGH	M/s Benee Nongsiej	Dhapgre	Mobile Crusher		27-11-18
212	R-Bhoi	M/s Umnawe Stone Quarry of Phaisar Shilla	Umnawe Killing	Stone Quarry		20-11-18
213	WJH	M/s Pyrbot Car Wash	Liar Pamkam Khliehtyrchi	Automobile Servicing		12-03-19
214	WJH	M/s Paitlang Car Wash	Liar Pamkam Khliehtyrchi	Automobile Servicing		12-03-19
215	WJH	M/s Wanpynsuk Passah	Riatturiem, Khliehtyrchi	Automobile Servicing		12-03-19
216	EKH	M/s C.S. Construction Company Pvt. Ltd.	Anders Apartment Near Shillong College, Bonfyle Road, Laitumkhrah	Ready Mix Cement Concrete		28-02-19

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