ANNUAL REPORT

1998-1999

MEGHALAYA STATE POLLUTION CONTROL BOARD,
"ARDEN", LUMPYNGNGAD,
SHILLONG – 793014

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ANNUAL REPORT FOR THE PERIOD 1st APRIL 1998 – 31st MARCH 1999

CONTENTS

1 INTRODUCTION

The State Board for Prevention and Control of Water Pollution, Meghalaya was constituted by the Government of Meghalaya on the Sixteenth Day of November, Nineteen Eighty Three in pursuance of the Water (Prevention & Control of Pollution) Act, 1974.After the enactment of the Air (Prevention & Control of Pollution) Act, 1981, the enforcing responsibility of the Act was also entrusted to the Board. The Board was later renamed as Meghalaya State Pollution Control Board in 1988. The functions of the Board are as 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.

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

1) The Water (Prevention and Control of Pollution) Cess Act, 1977, and as amended by Amendment Act in 1991.
2) The Water (Prevention and Control of Pollution) Cess Rules, 1978.
3) The Hazardous Waste (Management and Handling) Rules, 1989.
4) The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.
5) The Manufacture, Use, Import, Export & Storage of Hazardous Micro organism or Cells Rules, 1989.
6) The Public Liability Insurance Act, 1991.
7) The Environmental Impact Assessment Notification, 1994.
8) The Chemical Accidents (Emergency Planning, Preparedness & Response) Rules, 1996.

The Board has been functioning with 39 (Thirty nine) Staff as on 31-3-1999 against a sanctioned strength of 82 (Eighty two). The details of staff position are given in Annexure-I. The organization chart of the Board is given in Annexure-II.

The Central Office of the Board is located in Shillong. At present, the Board does not have any Regional or District Offices. The Central Office is responsible for framing general policies relating to enforcement of the Acts and Rules. It also looks after the general administration and co-ordination with other agencies. Besides, it takes up public awareness programmes on matters relating to environment protection and pollution control. The Central Laboratory is well-equipped and carries out analysis of samples of water, waste water, stack emission, ambient air, bacteriological, bio-assay tests etc.

The other activities of the Central office of the Board are: -

(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 MINARS (Monitoring of Indian National Aquatic Resources System) programme.

(vi) Ambient Air Quality Monitoring under National Ambient Air Quality Monitoring (NAAQM) programme.

(vii) Offering guidance to industries and local bodies on statutory provisions.

(viii) Issue of Consents to Establish and Consents to Operate in respect of industries and Municipal bodies.

2 CONSTITUTION OF THE BOARD AND CHANGES THEREIN

The State Government nominates the members of Meghalaya State Pollution Control Board. The Board was originally constituted under Section 4 of the Water (Prevention & Control of Pollution) Act, 1974 vide Notification No. PHE. 161/83/1 dt. 16th November, 1983. The last reconstitution was in May, 1998 vide Notification No. PHE 161/83/178 dated the 21st May, 1998.

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 list of the Members of the Board is appended at Annexure-III.

Shri. H.Prasad took over the charge of the post of Chairman from Shri.B.M.Choudhury on the 5th -June-1998 and continued in the post during the financial year.

Shri S.K. Blah who joined the Board on the 13th November, 1996 continued in the post of Member Secretary during the financial year.

3 MEETINGS OF THE BOARD WITH MAJOR DECISIONS

During the year 1998-1999, the Board conducted the following Meetings:

SL. NO.	MEETING NO.	DATE	VENUE	NO. OF MEMBERS ATTENDED THE MEETING
1.	Twenty SeventhMeeting	8th May, 1998	Conference Hall, MSPCB.	10 (Ten)
2.	Twenty Eighth Meeting	28thOctober, 1998	Office Chamber of the Chairman, MSPCB.	9 (Nine)

THE FOLLOWING DECISIONS WERE TAKEN IN THE ABOVE MEETINGS: -

27TH BOARD MEETING:

- The Board approved the proposal for revision of rates for Consent Fees.
- The Board approved the proposal for re-constitution of the Consent Committee.
- The Board authorised the Chairman, Meghalaya State Pollution Control Board to accord approval for grant of Consent in respect of industrial units with capital investment of Rs 10.00 Lacs and below.

28TH BOARD MEETING:

- The Board approved the proposal for establishment of a Regional Office at Tura.
- The Board approved the Re-designation of the post of Chief Chemist as Scientist 'C'.
- The Board approved the establishment of Pollution Awareness and Assistance Centre (PAAC) in the Board's Office.

4 COMMITTEES CONSTITUTED BY THE BOARD AND THEIR ACTIVITIES

The Board Vide its Order No. MPCB/TB-360/98-99/22 Dtd. 22.04.98 and No.MPCB/TB-360/98-99/103 Dtd. 4th Feb'99 constituted 2(two) " Environmental Public Hearing Panels" comprising of members as enlisted at Annexure-IV(A) and Annexure(IVB) for recording/examining/assessing the comments, views, suggestions and objections made by the public on the proposed Limestone Mining project of M/s Lummawshun Minerals Ltd. and the Leshka Hydel Power Project, project of Meghalaya State Electricity Board respectively.

The Purchase Committee of the Board remain the same as constituted vide Government Notification No. PHE 96 /95/3 Dtd. 29th September1995. The Consent Committee was reconstituted in November 1998 vide Notification NO. MPCB/GEN-11/98-99/85 Dt. 20-11-98. The composition of the Consent Committee and the Purchase Committee are as given in Annexure –V and Annexure –VI respectively.

5 MONITORING NETWORK FOR AIR, WATER AND SOIL QUALITY

5.1 MONITORING OF AIR QUALITY

(A) NATIONAL AMBIENT AIR QUALITY MONITORING

There are 2(two) Nos. of Ambient Air Quality Monitoring Stations in the State and both are located in Shillong City. One station is located at Lumpyngngad inside the Board's office building, and the other station is located at the State Central Library building, Shillong. The latter was commissioned in March 1989 but it has become non – operational since July 1996 because of the inability to conduct 24 hours sampling as per the norms and guidelines of the Central Pollution Control Board. The major pollutants monitored at these stations are Suspended Particulate Matter (SPM), Sulfur Dioxide (SO_2) and oxides of Nitrogen (NOx). Some meteorological parameters were also monitored during the ambient air quality sampling.

The following observations were obtained from the Station at the Board's Office at Lumpyngngad, Shillong:

STATION AT BOARD'S PREMISES, LUMPYNGNGAD, SHILLONG

MONTH & YEAR	PARAMETERS TESTED		
	SPM ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_X ($\mu g/m^3$)
APRIL '98	26.8	BDL	BDL
MAY '98	35.5	BDL	BDL
JUNE '98	29.0	BDL	BDL
JULY '98	23.5	BDL	BDL
AUGUST '98	23.3	BDL	BDL
SEPTEMBER '98	21.4	BDL	BDL
OCTOBER '98	30.9	BDL	BDL
NOVEMBER '98	28.4	BDL	BDL
DECEMBER '98	39.1	BDL	BDL
JANUARY '99	46.17	1.35	6.5
FEBRUARY '99	43.02	4.0	7.8
MARCH '99	36.6	1.87	6.1

BDL: Below Detectable Limits.

(B) STACK EMISSION DATA

Stack Emission monitoring was carried out on 26th June, 1999 in respect of the following cement manufacturing unit. Data obtained for three types of Air Pollutants are as given below:-

SL. NO.	NAME OF THE INDUSTRY & LOCATION	SPM ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NOx ($\mu g/m^3$)
1.	M/s. R.K.B. CEMENT (MAIN STACK)	193.1	BDL	BDL

BDL : Below Detectable Limits.

(C) ASSESSMENT OF VEHICULAR POLLUTION

Vehicular emissions are the main contributors to air pollution because the per capita density of vehicles in the urban centers of the State especially Shillong is very high. The Board is coordinating with the Office of the Commissioner of Transport, Meghalaya in the activities/programmes for reducing vehicular pollution. The Board has a Vehicle emission-testing Center in its office premises at Lumpyngngad, Shillong, which has been in existence since January 1994. This testing Center caters exclusively to the test needs of the Commercial petrol - driven light vehicles only. During the year 1998-1999, the details of petrol-driven vehicles tested are as follows: -

YEAR	TOTAL NO. OF VEHICLES TESTED	NO. OF VEHICLES WITHIN LIMIT	PERCENTAGE NOT COMPLYING TO EMISSION STANDARDS
01-04'98 to 31-03-'99	1194	593	50%

5.2 MONITORING OF WATER QUALITY IN THE STATE

One of the major objectives of the Meghalaya Pollution Control Board as per the Water (Prevention and Control of Pollution) Act 1974 is to promote cleanliness of Water bodies in the State. To achieve this objective, the Board is undertaking monitoring of major rivers/lakes and springs of the state under the following programmes:

5.2(A) MONITORING OF NATURAL WATER BODIES UNDER MINARS PROGRAMME

Under MINARS programme sponsored by the Central pollution Control Board, water quality monitoring was conducted at 5 (five) stations namely, Ward's Lake, Shillong, Umiam River, Umtrew River, Thadlaskein Lake and Kyrhohkhla River. The Water quality of these water bodies was monitored on quarterly basis since 1990. The analysis results obtained during 1998-99 are as shown in Table-1 to Table 6.

From the above-mentioned tables, it may be noted that River Umtrew and Thadlaskein Lake have more or less good water quality. River Kyrhohkhla which flows through the coal mining areas of Jaintia Hills District shows remarkably less pH values, which is indicative of water pollution by coal mining activities. Wards Lake in Shillong and Umiam Lake which is not far from Shillong receive most of the waste water and solid waste generated in the city and therefore the Water quality of these two water bodies shows the presence of high content of total and faecal coliforms, which is a clear sign of organic and bacterial pollution.

5.2 (B) ANALYSIS OF WATER SAMPLES OF OTHER AGENCIES

The Board also analyses the water samples received from various Govt. agencies and Semi-Government organizations in the State. During the year 1998-1999, the Board analysed 250 such water samples, which include 189 samples from the Public Health Engineering Deptt. Govt. of Meghalaya, 4 samples from industrial establishments, 20 samples collected under MINARS programme and 37 samples collected and brought by other Organisations, private individuals and groups.

As most of the water samples are received from the Public Health Engineering Department, Govt. of Meghalaya, the Board has a record of the drinking water quality of various water sources of the State.

6 PRESENT STATE OF THE ENVIRONMENT, ENVIRONMENTAL PROBLEMS AND COUNTER MEASURES.

Meghalaya is a Hill State located in the North-Eastern region of the Country. It covers an area of about 22.429 sq.kms. and its population as per 1991 census is 17,74,778. Due to certain factors, the industrial development in the State has been slow and as such, the environmental pollution from industrial sources is not that significant. In the recent past, the State has been experiencing rapid population growth and fast urbanization. It is estimated that about 80% of the pollution resulted from indiscriminate discharge or disposal of domestic sewage, trade effluents, urban solid wastes, bio-medical wastes, from domestic fuel burning and from vehicular exhaust emissions. However, the exhaust emission from vehicles is a major contributor to air pollution since road transport is the only mean of transport in the State. The State is rich in mineral resources and the main minerals are coal and limestone, which are found in almost the entire southern belt. Mining activities are mostly in private hands and minerals are being exploited in an unscientific and unplanned manner without any measures for reclamation of the already mined areas. This has resulted in severe water pollution and environmental degradation.

As per information from the Directorate of Industries, Govt. of Meghalaya, there are 2,533 industrial units/establishments in the State. Many of these are small and tiny units, which are non-polluting in nature. However, around 250 of these are regarded as polluting units and one of them is a cement plant under large-scale industrial sector, which also falls under the 17 categories of highly polluting industries. The others are medium and small-scale cement plants, lime calcinations plants ingot manufacturing and steel rolling mills, stone crushing units, auto workshops and auto servicing units. Most of the lime calcinations units are coal - fired traditional limekilns, which do not have even hood and chimney for venting out the smoke. So far, no cost effective pollution control system could be suggested for such units due to peculiar nature of the kiln structures, type of coal used and the climatic conditions at the places where such limekilns are dominantly located.

The Board is regulating the discharge of effluents and air emissions from industries through the issuance of Consents under the Water Act & the Air Act. While issuing Consents, conditions are imposed with regard to the effluent standards and the emission standards to which industries have to comply with. Conditions are also stipulated for setting up of effluent treatment plants and/or installing air pollution control devices wherever they are required. The Officials of the Board are engaged in periodical collection and analysis of samples for verification of the industries' compliance to consent conditions. The industrial firms are also instructed to ensure that pollution control systems, whenever necessary, are installed and commissioned within a stipulated time. In respect of new Projects, Consents to Establish are issued only after examining the suitability of the sites and scrutiny of the pollution control proposals. Besides, the Board is encouraging the industries to adopt cleaner production techniques based on re-cycle, re-use, and recover concepts.

The names of industries/firms which applied for Consent to Establish during the year 1998-1999 are as given at Annexure-VII. The industries which were granted Consent to Establish during the year are as listed at Annexure-VIII.The industries which have applied for Consent to Operate during the year are as listed at Annexure-IX. The industries which were granted the Consent to operate are as mentioned at Annexure- X. Further, the industries which were granted the Renewal of the Consent to Operate are as listed at Annexure-XI.

During the year 1998-1999, the Board conducted 2(two) Environmental Public Hearings with respect to a lime stone mining project at Nongtrai, East Khasi Hills proposed by M/s. Lummawshun Minerals Pvt Ltd. and the Leska Hydel Power Project on Myntdu River in Jaintia Hills District proposed by the Meghalaya State Electricity Board. Based on the outcome of the Hearings, the Board granted the No-objection / Consent to Establish to enable the concerning project proponents to apply for grant of the Environmental Clearance by the Ministry of Environment & Forests, Govt. of India.

7 ENVIRONMENTAL RESEARCH

The following programmes were undertaken during the period.

(i) WATER AND AIR QUALITY MONITORING IN SPECIFIC AREAS OF THE STATES

Under the Programme for Prevention, Abatement and Control of Pollution sanctioned by the Ministry of Environment and Forests, Govt. of India, a study project,viz "Water and Air Quality Monitoring in specific Areas of Meghalaya State" was taken up. As per the requirement of the project, the ambient air quality monitoring at selected stations/localities and the water quality monitoring of selected water bodies were carried out. The results of the same are placed at Tables 7, 8, 9,10 & 11.

(ii) WATER QUALITY STATUS OF UMSHYRPI RIVER

The Board undertook the study to investigate the water quality status of river Umshyrpi, an important river flowing across Shillong in the southern direction, and submitted the findings along with recommendations for improvement of water quality to the Govt. of Meghalaya. The water quality data of Umshyrpi river at various locations and its tributaries are given at Tables 12 and 13.

8 ENVIRONMENTAL TRAINING

Officers and staff of the Board attended a number of training programmes, workshops, and seminars, sponsored by the Ministry of Environment & Forests Govt. of India, Ministry of Urban Development Govt. of India, Central Pollution Control Board and other agencies. The list of the Board's officials who attended the programmes is appended at Annexure – XII.

9 ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION

The Board granted financial assistance to NGOs, viz. Meghalaya Environmental Action Network (MEAN) in organizing Inter-School Green Festival on the 16th May, 1998 for creating awareness amongst the school students about the Environment and preservation of the Environment.

In 1998, the Board officials participated in the state level Science Seminar organized by the Directorate of Higher and Technical Education, Meghalaya, Shillong and in a programme organized by the Centre for Environment Education, North East Cell in collaboration with Shillong We Care.

The Board has been assisting the PHE Department, Municipal, etc in monitoring the water quality of the drinking Water Supply Schemes to ensure supply of safe drinking water to the public in the State. Based on the Board's reports on water quality status, some NGOs have launched the cleaning drives of rivers of Shillong like Umshyrpi & Umkhrah Rivers.

10 ENVIRONMENTAL STANDARDS INCLUDING THE TIME SCHEDULE FOR THE ENFORCEMENT.

The Board has adopted the Standards prescribed by the Central Pollution Control Board and Ministry of Environment and Forests, Govt. of India. In case, the standards of the said organizations are not available, the standards prescribed by the Indian Standards Institutions are followed. The Board Maintains the enforcement Schedule prescribed by the Central pollution Control Board and Ministry of Environment and Forests, in respects of the 17 (seventeen) Categories of Industries. However it has its own enforcement schedule for the other industries as specified at the time of granting of "Consent to Establish" and "Consent to Operate".

11 PROSECUTION AND CONVICTIONS FOR ENVIRONMENTAL CONTROL.

No Prosecutions were launched against any industrial unit for non-compliance of the standards during the year 1998-1999.

11.1 CLOSURE OF INDUSTRIAL POLLUTING UNIT.

The Board did not issue closure notices to any industry during the year 1998-1999.

12 FINANCE AND ACCOUNTS.

The receipts and payment account for the year 1998-1999 is appended as Annexure- XIII (A) and XIII (B)

13 ANNEXURES

ANNEXURE-I

STAFF POSITION POSITION OF THE MEGHALAYA STATE POLLUTION CONTROL BOARD AS ON 31ST MARCH, 1999

SL NO.	NAME OF POST	SANCTIONED STRENGTH	WORKING STRENGTH	VACANCY
	ADMINISTRATIVE & ACCOUNTS STAFF			
1.	Administrative Officer	1	-	1
2.	Private Secretary to Chairman	1	-	1
3.	Scientist 'B' (Eco & Stat.)	1	-	1
4.	Legal Officer	1	-	1
5.	Senior Accountant	1	1	-
6.	Establishment Officer	1	-	1
7.	Stenographer Grade II	1	-	1
8.	Statistical Assistant	1	1	-
9.	U.D.A.	4	2	2
10.	L.D.A.	7	1	6
11.	L.D.A cum Typist	5	4	1
12.	Typist	4	-	4
13.	Library Assistant	1	-	1
14.	Driver	4	3	1
15.	Duftry	1	1	-
16.	Peon / Mali / Plumber	14	5	9
17.	Chowkidar	3	2	1
	TECHNICAL STAFF			
1.	Environmental Engineer	2	1	1
2.	Asstt.Environmental Engg.	4	4	-
3.	Senior Draftsman	1	-	1
4.	Junior Draftsman	2	-	2
5.	Tracer	2	-	2
	SCIENTIFIC STAFF			
1.	Scientist "C"	1	1	-
2.	Scientist "B"	3	2	1
3.	Scientific Assistant (Senior)	1	1	-
4.	Junior Scientific Asstt.	5	2	3
5.	Junior Laboratory Asstt.	2	2	-
6.	Storekeeper	1	1	-
7.	Sample Collector	5	3	2
8.	Laboratory Attendant	2	2	-
	TOTAL	**82**	**39**	**43**

Org.Chart- 1998-1999 (See separate file name)

ANNEXURE-III

LIST OF MEMBERS FOR THE PERIOD 1998-1999

1. Chairman, Meghalaya state Pollution Control Board, Shillong	Chairman
2. Chief Engineer Public Health Engineering, Meghalaya ***or*** his nominee	Member
3. Director of Industries, Meghalaya ***or*** his nominee	Member
4. Director of Health Services (Research, etc), Meghalaya ***or*** his nominee	Member
5. Director, Urban Affairs, Meghalaya ***or*** his nominee	Member
6. Chief Conservator of Forests (Social Forestry & Environment), Meghalaya ***or*** his nominee	Member
7. Chief Executive Member, Khasi Hills Autonomous District Council ***or*** his nominee	Member
8. Chief Executive Member, Jaintia Hills Autonomous District Council ***or*** his nominee	Member
9. Chief Executive Member, Garo Hills Autonomous District Council ***or*** his nominee	Member
10. CEO, Shillong Municipal Board ***or*** his nominee	Member
11. Chairman, Tura Municipal Board ***or*** his nominee.	Member
12. Managing Director, Meghalaya Industrial Development Corporation ***or*** his nominee	Member
13. Managing Director, Meghalaya Mineral Development Corporation ***or*** his nominee	Member
14. Shri R.S. Tripathi, Dean, School of Life Science, NEHU Campus, Shillong-2	Member
15. Shri J.N.Puri, Umlyngka, Shillong-5.	Member
16. Shri John Kharshiing Dum Dum, Nongthymmai, Shillong-14.	Member
17. Member Secretary, Meghalaya State Pollution Control Board	Member Secretary

(The Meghalaya State Pollution Control Board was re-constituted Vide Notification No.PHE/161/83/178 Dtd. 21st May,1998)

ANNEXURE-IV(A)

ENVIRONMENTAL PUBLIC HEARING PANEL

1.	Shri W.Khyllep, M.C.S. Addl. Deputy Commissioner, East Khasi Hills, Shillong.	Chairman
2.	Conservator of Forests, Social Forestry & Environment, Meghalaya, Shillong	Member
3.	Director of Mineral Resources, Meghalaya, Shillong	Member
4.	Chief Forest Officer, Khasi Hills Autonomous District Council, Shillong.	Member
5.	Revenue Officer, Khasi Hills Autonomous District Council, Shillong.	Member
6.	Divisional Forests Officer Khasi Hills Autonomous District Council, Shillong.	Member
7.	Shri B.Lyngdoh, Headman of Santi Nongtrai	Member
8.	Shri W.S.Lyngdoh, Secretary of Nongtrai Village Dorbar	Member
9.	Shri. K.Lyngdoh, Vice Chairman, Village Court, Nongtrai.	Member
10.	Member Secretary, Meghalaya State Pollution Control Board, Shillong .	Member Convener

ANNEXURE-IV (B)

ENVIRONMENTAL PUBLIC HEARING PANEL WITH RESPECT TO

" LESKA HYDEL POWER PROJECT "OF MEGHALAYA STATE ELECTRICITY BOARD

1.	Shri W.S.Mawlong, I.A.S. Deputy Commissioner,Jaintia Hills District, Jowai.	Chairman
2.	Chief Conservator of Forest (Social Forestry & Environment) Meghalaya, Shillong.	Member
3.	Additional Chief Engineeer (Civil) Me.S.E.B.,Shillong	Member
4.	Chief Forest Officer, Jaintia Hills Autonomous District Council, Jowai	Member
5.	Revenue Officer Jaintia Hills Autonomous District Council, Jowai	Member
6.	Shri. Hermon Tariang, Thangbuli, B.P.O., Jarain – 793 150	Member
7.	Shri.Phul Surong, Amladkhur, B.P.O.. Jarain – 793 150	Member
8.	Shri. Mir Sichen Suchen Village, B.P.O Khliehriat.	Member
9.	Member Secretary, Meghalaya State Pollution Control Board, Shillong.	Member Convener

ANNEXURE-V

LIST OF THE CONSENT COMMITTEE MEMBERS DURING 1998-1999

1	Chairman, Meghalaya State Pollution Control Board, Shillong.	Chairman
2.	Director, Mineral Resources, Meghalaya, Shillong.	Member
3.	Joint Director (II), Urban Affairs, Meghalaya	Member
4.	Deputy Director (Planning) Industries, Meghalaya.	Member
5.	Senior Inspector of Boilers & Factories, Meghalaya.	Member
6.	Office on Special Duty, Office of the Chief Conservator of Forests, (Social Forestry & Environment), Meghalaya.	Member
7.	Prof.R.S.Tripathi, Department of Botany, NEHU.	Member
8.	Member Secretary, Meghalaya State Pollution Control Board.	Member Convener.

ANNEXURE-VI

MEMBERS OF THE PURCHASE COMMITTEE DURING THE YEAR –1998-1999

1.	Chairman, Meghalaya State Pollution Control Board	Chairman
2.	Director, Regional Sophisticated Instrumentation Centre, Shillong	Member
3.	Chief Engineer, P.H.E., Meghalaya or his nominee	Member
4.	Director of Industries, Meghalaya	Member
5.	Senior Scientist (PP), Indian Council of Agricultural Research, Umiam	Member
6.	Senior Accountant, Meghalaya State Pollution Control Board..	Member
7.	Member Secretary, Meghalaya State Pollution Control Board.	Convener

ANNEXURE-VII

LIST OF INDUSTRIES, WHICH APPLIED FOR CONSENT TO ESTABLISH DURING 1998-1999.

1. M/S La-I-sap Automobile Workshop, Nongthymmai, Shillong
2. M/S Jana Body Construction, Madanryting, Shillong, East Khasi Hills
3. M/S Greystone Mine (P) Ltd, Byrnihat, Ri-Bhoi District
4. M/S D.Shandora Enterprise, Mawlyngngad, East Khasi Hills,
5. M/S Vistarr Cement, Byrnihat, Ri-Bhoi District.
6. M/S P.Lyngdoh Stone Crusher, Nongthymmai, Shillong, East Khasi Hills.
7. M/S Meghalaya Steel & Concrete Products (P) Ltd, Byrnihat, Ri-Bhoi District.
8. M/S H.M.Cements, Byrnihat, Ri-Bhoi District.
9. M/S S.M.India, Ltd, Mynkree, Jaintia Hills.
10. M/S Sunbridge Diary Processing Unit, Mawlai Kynton Massar, East Khasi Hills.
11. M/S B.Kharwanlang Lime Kiln, Mawlong, East Khasi Hills
12. M/S Indus Cement, Byrnihat, Ri-Bhoi District.
13. M/S Rivest Land Motor Works, Mawlai T.S.S. Rd. Shillong, East Khasi Hills
14. M/S S.Khongwir Lime Kiln, Mawlong, East Khasi Hills
15. M/S P.Lyngdoh Self Servicing, Jowai, Jaintia Hills
16. M/S T.C.Marngar Stone Crusher, Sohiong, East Khasi Hills
17. M/S N.Nongrum cooking Oil factory, Mawlai Mawiong, Shillong, East Khasi Hills
18. M/S Nalari Tea Industry, Nongbah, Ri-Bhoi District.
19. M/S Granite & Allied Industry, Mawblei, Shillong East Khasi Hills.
20. M/S Meghalaya Polly Packs Ltd., Damas, East Garo Hills
21. M/S A.Nongrum, Pynursla, East Khasi Hills.

ANNEXURE-VIII

LIST OF INDUSTRIES WHICH WERE GRANTED CONSENT TO ESTABLISH DURING 1998-1999

1. M/S Shivam Ispat and Alloys (P) Ltd. Byrnihat, Ri-Bhoi District
2. M/S Purbanchal Tubes (P) Ltd, Byrnihat, Ri-Bhoi District
3. M/S L.Suting Lime Kiln, Mawsmai, Cherrapunjee, East Khasi Hills
4. M/S Laitphar Suting Lime Kiln, Mawsmai, Cherrapunjee, East Khasi Hills
5. M/S B.Kurkalang, Greystone, Mines, Byrnihat, Ri-Bhoi District
6. M/S D.Shandera Enterprise, Mawlyngad, East Khasi Hills
7. M/S Sunbridge Diary Processing Plant, Mawlai Kynton Massar, East Khasi Hills
8. M/S S.Khongwir Lime Kiln, Mawlong, East Khasi Hills
9. M/S Sohra lime kiln, Cherrapunjee, East Khasi Hills
10. M/S W.K.Marbaniang Lime Kiln, Mawsynram, East Khasi Hills
11. M/S K.K.Beverages, Khanapara, Ri-Bhoi District.

ANNEXURE-IX

LIST OF INDUSTRIES WHICH APPLIED FOR CONSENT TO OPERATE DURING 1998-1999

1. M/s Easter Mining Ltd, Miangmawdar, West Khasi Hills
2. M/S A.M.S. Cement (P)Ltd, Mawpdang, East Khasi Hills
3. M/S W.Mawa Lime Kiln, Ichamati, East Khasi Hills
4. M/S Shivam Ispat and Alloys (P)Ltd, Byrnihat, Ri-Bhoi District
5. M/S Myliemngap Auto Engs, Kench'S Trace, Laban, Shillong, East Khasi Hills.
6. M/S Associated Agro Enterprise, Byrnihat, Ri-Bhoi District
7. M/S Khyllep Lime Products, Mawlong, East Khasi Hills
8. M/S Wann Lime Ltd, Ichamati, East Khasi Hills
9. M/S E.Sohkhlet Enterprise Lime Kiln, Cherrapunjee, East Khasi Hills
10. M/S Gee See Kaa Stone Crushing Unit, Madanryting, Shillong
11. M/S B.Lyngdoh Diesel Generator, LIC office Dhankheti, Shillong.

ANNEXURE-X

LIST OF INDUSTRIES WHICH WERE GRANTED CONSENT TO OPERATE DURING 1998-1999

1. M/s Dauglas Rymbai Stone Crusher, Laitkor, Shillong East Khasi Hills
2. M/S T.Nongspung Saw Mill, Smit, East Khasi Hills
3. M/S Shivam Ispat & Alloys (P) Ltd, Byrnihat, Ri-Bhoi District
4. M/S Associated Agro Enterprise, Byrnihat, Ri-Bhoi District
5. M/S Khyllep Lime Products, Mawlong, East Khasi Hills
6. M/S Wann Lime Ltd, Ichamati, East Khasi Hills
7. M/S Diesel Generator, LIC Office, Dhankheti, Shillong.

ANNEXURE-XI

LIST OF INDUSTRIES, WHICH WERE GRANTED RENEWAL OF CONSENT TO OPERATE/ESTABLISH DURING 1998-1999

1. M/S Associated Beverages (P) Ltd, Byrnihat, Ri-Bhoi District-O
2. M/S Kommorah Limestone Mining Co. Ltd, Mawlong, East Khasi Hills-O
3. M/S Shankar Atta Chaki Mill, Bara Bazar, Shillong-1 East Khasi Hills-O
4. M/S Meghalaya Bamboo Chips Ltd, Nongchram East Garo Hills – O
5. M/S R.K.B.Cements (P) Ltd, Barapani Industrial Estate, Ri Bhoi District.
6. M/S Shree Sai Megha Alloys (P) Ltd, Byrnihat, Ri Bhoi District-O.

ANNEXURE-XII

TRAINING/WORKSHOPS/SEMINARS ATTENDED BY OFFICIALS OF THE BOARD DURING 1998-1999

Sl. No	NAME & DESIGNATION	NAME & TRAINING	PLACE OF TRAINING	PERIOD OF TRAINING
1	Shri S.C.Katiyar, Chief Chemist	Air Quality Modeling	New Delhi	16th – 17th, June,1998
2	Shri H.Prasad, Chairman	Cost Effective Control by Photo remediation	Hyderabad	1st-2nd July,1998
3	Shri J.H.Nengnong, Environmental Engineer	Pollution Prevention and Remediation	Kolkatta	9th & 10th July,1998
4	Shri J.H.Nengnong, Environmental Engineer	Solid & Hazardous Waste Management	IIT, Mumbai	7th – 11th September, 1998
5	Shri S.K.Blah, Member Secretary	Solid & Ground Water Pollution & Monitoring	New Delhi	14th – 18th July, 1998
6	Shri H.Prasad, Chairman	Management of Natural resources & Environment	New Delhi	14th – 18th September, 1998
7	Shri W.R.Kharkrang, Assistant Environmental Engineer	Qualitative Method in Industrial Pollution Control	Hyderabad	14th – 19th September, 1998
8	Ms B.Nongbri, Scientist "B"	Industrial Pollution Control	Ranipur, Haridwar	21st-25th September, 1998
9	Mr H Prasad, Chairman	Management of Hazardous & Non-hazardous Industrial & Solid Waste and disposal in landfills	New Delhi	6th –7th October,1998
10	Shri R.S.Nongbri, Assistant Environmental Engineer	Waste Water Management in texrtiles & other industries	Dhanbad	12th- 16th October, 1998
11	Mr S.Swer, Scientific Assistant	Noise Pollution, Monitoring & Control	Roorkee	15th –16th October, 1998
12	Mr S.K.Blah, Member Secretary	Environmental Priorities & Sustainable Development	Patna	20th –24th October 1998
13	Mr. S.C.Katiyar, Chief Chemist	Wastewater management in chemical industries	Mumbai	2nd – 6th November,1998
14	Ms B.Majaw, Assistant Environmental Engineer	Solid & Hazardous Waste Management	New Delhi	9th- 14th November,1998
15	Mr J.H.Nengnong, Environmental Engineer	Environmental Management in Mining	Dhanbad	16th – 20th November,1998
16	Mr H.Prasad, Chairman	Perspective in Environmental Management	Kolkatta	23rd – 27th November,1998
17	Shri. S.C.Katiyar, Scientist "C"	Environmental Management and Land Based Natural Resource Planning.	Nuremberg, Germany	November-December, 1998
18.	Mr H.Prasad, Chairman	Energy Recovery from urban municipal wastes	New Delhi	11th - 12th December,1998

19	Mr H.Prasad, Chairman	Management of Natural Resources and Environment	New Delhi	14th – 19th December, 1998
20	Mr S.K.Blah, MemberSecretary	Management of NaturalResources and Environment	New Delhi	14th – 19th December, 1998
21	Mr H.Prasad, Chairman	Environmental Ecocnomics	Kolkatta	8th – 13th January,1999
22	Ms B.Majaw, Assistant Environmental Engineer	Environment Impact Assessment	New Delhi	11th – 15th Januarty, 1999
23	Mr H.Prasad, Chairman	Environmental Management capacity building technical assistance project	Kolkatta	18th –23rd January,1999
24	Mr H.Prasad, Chairman	Lead Poisoning- International Conference on Prevention & Treatment	Bangalore	8th-10th February,1999
25	Mr S.Swer, Scientific Assistant	Development & Use of reference materials	New Delhi	10th- 12th February,1999
26.	Mr S.K.Blah, Member Secretary	Air Pollution Control Technologies	Roanoke, VA United States of America	22nd Feb to 26th March, 1999.

ANNEXURE- XIII (A)

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR 1998-1999
RECEIPTS A/C

Opening Balances of :			
• Cash in hand	:	11171.26	
• Cash at bank	:		
• **In Savings bank Account:**			
With Indian Overseas Bank,			
Shillong,(3488)	:	(22123.36)	
Indian Overseas Bank,			
Shillong(6757)	:	16080.63	
Indian Bank ,Shillong	:	(14076.40)	
Bank of India,			
Shillong on:			
Account No. 544	:	1371397.48	
Account No.1242	:	69529.60	
Account No.1090	:	79910.00	
• **In Fixed Deposit:**			
With Indian Overseas Bank , Shillong	:	3908032.45	
Bank of India, Shillong	:	2156149.00	7576070.66
• **Grant received from:**			
Ministry of Environment and Forests, Govt. Of India,	:	1020000.00	
Central Pollution Control Board	:	-------	
Department of Health Engineering,			
Govt. Of Meghalaya	:	5400000.00	6420000.00
Grant in aid received from other Agencies	:		126350.00
• Fees	:	720341.79	
• Interest on investments	:	248274.00	
• Miscellaneous Receipts	:	27732.00	
• Miscellaneous advances	:	20458.82	
• Deposits	:	------	1016806.61
TOTAL		**Rupees:**	**1,51,39,227.27**

N.B: Receipts & Payments Accounts for the year 1998-1999 are unaudited

ANNEXURE-XIII (B)

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR 1998-1999
EXPENDITURE A/C

• Fixed Assets	:	NIL	
• **Other Assets:**			
Scientific Instruments and			
Office Appliances	:	1175792.82	
Tools and Plants	:	3567.00	1179359.82
• **Revenue Expenditure:**			
Administration:			
Pay & Allowances to Officers and Staff			
Contribution	:	3489937.00	
• Leave Salary and Pension	:	----	
• Contingent Expenditure	:	917707.52	4407644.52
• Board Laboratory			25422.00
• Running and Maintenance of Vehicles			126436.18
• Consultancy fee			----
• Repairs and maintenance			17321.00
• Legal Charges			----
• Advances			295494.00
• Deposits			70776.00
CLOSING BALANCES OF:			
• Cash in hand	:	11163.26	
• **Cash at Bank:**			
In Savings Bank Account	:		
With Indian Overseas Bank,			
Shillong(3488)	:	(22123.36)	
Indian Overseas bank, Shillong(6757)	:	1572558.88	
Indian Bank Shillong	:	(14076.40)	
Bank of India, Shillong on			
Account No.544	:	3602486.53	
Account No. 1242	:	870583.39	
Account No.1090	:	82000.00	
• **In Fixed Deposit Account:**			
With Indian Overseas Bank, Shillong	:	758032.45	
Bank of India, Shillong	:	2156149.00	9016773.75
	TOTAL	**Rupees:**	1,51,39,227.27

N.B: Receipts & Payments Accounts for the year 1998-1999 are unaudited

14 TABLES

Table – 1

WATER QUALITY DATA OF THE MINARS STATIONS DURING 1998-1999.

SL. NO	PARAMETERS	THADLA-SKEIN LAKE	UMTREW RIVER	UMIAM LAKE	WARD'S LAKE	KYRHUH-KHLA RIVER
1.	PH	7.7	8.4	7.8	7.6	3.2
2.	Conductivity (µmho / $cm^{2)}$	121.9	112.0	166.0	195.9	371.3
3.	Turbidity (NTU)	10.0	18.7	6.9	13.9	11.0
4.	Total Dissolved Solids (mg/l)	85.0	115.3	123.5	131.4	310.2
5.	Chloride (mg / l)	20.5	10.0	10.8	20.9	22.1
6.	Alkalinity (mg / l)	12.5	21.1	24.5	20.1	157.7 (Acidity)
7.	Hardness (mg / l)	12.5	19.5	30.5	39.5	17.6
8.	Calcium (mg / l)	6.3	13.7	18.3	24.1	9.2
9.	Sodium (mg / l)	3.8	-	5.5	6.6	6.7
10.	Magnesium (mg / l)	-	5.5	8.3	6.2	3.4
11.	Nitrogen (Nitrite & Nitrate) (mg / l)	2.4	6.7	6.9	9.6	2.0
12.	Ammonical Nitrogen (mg/l)	0.8	2.0	2.4	3.2	0.4
13.	Kjeldahl Nitrogen (mg / l)	1.5	3.0	2.4	3.2	0.4
14.	Sulphate (mg / l)	6.5	23.6	8.7	14.5	141.1
15.	Phosphate (mg / l)	0.5	0.8	0.89	1.6	0.6
16.	Dissolved Oxygen (mg / l)	7.4	8.6	8.4	8.8	8.7
17.	Biochemical Oxygen Demand (mg / l)	6.4	9.3	7.8	8.8	8.7
18.	Chemical Oxygen Demand (mg / l)	9.6	16.1	12.9	15.0	14.8
19.	Total Coliform (MPN / 100 ml)	36	230	2700	3800	4
20.	Faecal Coliform (MPN / 100 ml)	16	94	1450	2150	0

Table – 2

FROM THE 1St. APRIL 1998 UPTO THE 31ST. MARCH 1999

WATER QUALITY OF WARD'S LAKE

SL. NO	PARAMETERS	JUNE '98	SEPT '98	DEC. '98	MAR. '99
1.	pH	7.7	7.2	8.0	7.6
2.	Conductivity (µmho / $cm^{2)}$	155.0	188.0	190.8	205.0
3.	Turbidity (NTU)	11.2	16.0	22.0	6.4
4.	Total Dissolved Solids (mg/l)	115.0	120.0	140.4	150.5
5.	Chloride (mg / l)	23.0	20.0	17.5	23.0
6.	Alkalinity (mg / l)	22.0	18.5	20.0	20.0
7.	Hardness (mg / l)	38.0	40.0	40.0	40.0
8.	Calcium (mg / l)	14.4	18.0	32.0	32.0
9.	Sodium (mg / l)	-	3.0	8.0	9.0
10.	Magnesium (mg / l)	-	8.5	8.0	2.0
11.	Nitrogen (Nitrite & Nitrate) (mg / l)	10.2	9.0	9.4	9.8
12.	Ammonical Nitrogen (mg/l)	3.3	3.0	3.2	3.2
13.	Kjeldahl Nitrogen (mg / l)	4.5	4.2	4.5	4.4
14.	Sulphate (mg / l)	16.1	19.0	10.0	13.0
15.	Phosphate (mg / l)	1.5	1.7	1.5	1.8
16.	Dissolved Oxygen (mg / l)	9.2	9.3	10.0	9.7
17.	Biochemical Oxygen Demand (mg / l)	6.2	9.4	9.7	10.0
18.	Chemical Oxygen Demand (mg / l)	15.0	14.5	15.0	15.2
19.	Total Coliform (MPN / 100 ml)	5400	3500	2800	3500
20.	Faecal Coliform (MPN / 100 ml)	2400	2200	1800	2200

Table – 3

WATER QUALITY OF UMIAM LAKE

SL. NO	PARAMETERS	JUNE '98	SEPT '98	DEC. '98	MAR. '99
1.	pH	7.7	7.8	7.7	7.7
2.	Conductivity (µmho / $cm^{2)}$	150.5	162.4	160.5	190.8
3.	Turbidity (NTU)	10.8	8.0	3.0	6.0
4.	Total Dissolved Solids (mg/l)	115.0	120.5	118.3	140.5
5.	Chloride (mg / l)	18.0	9.0	7.5	9.0
6.	Alkalinity (mg / l)	20.0	26.0	28.0	26.0
7.	Hardness (mg / l)	26.0	26.0	30.0	40.0
8.	Calcium (mg / l)	20.0	17.4	20.0	16.0
9.	Sodium (mg / l)	-	5.0	4.6	7.0
10.	Magnesium (mg / l)	-	9.0	10.0	6.0
11.	Nitrogen (Nitrite & Nitrate) (mg / l)	8.1	5.4	6.2	8.2
12.	Ammonical Nitrogen (mg/l)	2.0	2.2	2.5	2.8
13.	Kjeldahl Nitrogen (mg / l)	3.8	3.5	4.0	4.5
14.	Sulphate (mg / l)	7.4	8.0	6.5	13.0
15.	Phosphate (mg / l)	0.64	0.92	1.0	1.0
16.	Dissolved Oxygen (mg / l)	6.7	8.0	8.3	10.8
17.	Biochemical Oxygen Demand (mg / l)	3.7	7.9	9.4	10.4
18.	Chemical Oxygen Demand (mg / l)	10.0	12.2	14.4	15.0
19.	Total Coliform (MPN / 100 ml)	2400	3200	2400	2800
20.	Faecal Coliform (MPN / 100 ml)	1600	1800	1100	1300

Table – 4

WATER QUALITY OF UMTREW RIVER

SL. NO	PARAMETERS	JUNE '98	SEPT '98	DEC. '98	MAR. '99
1.	pH	8.9	8.5	8.3	7.8
2.	Conductivity (µmho / $cm^{2)}$	162.0	175.7	175.2	175.4
3.	Turbidity (NTU)	8.0	20.0	27.0	20.0
4.	Total Dissolved Solids (mg/l)	100.5	110.2	120.3	130.0
5.	Chloride (mg / l)	18.0	9.0	6.0	9.0
6.	Alkalinity (mg / l)	30.0	18.5	18.0	18.0
7.	Hardness (mg / l)	18.0	16.0	22.0	22.0
8.	Calcium (mg / l)	11.4	11.4	16.0	16.0
9.	Sodium (mg / l)	-	5.2	6.7	5.9
10.	Magnesium (mg / l)	-	4.6	6.0	6.0
11.	Nitrogen (Nitrite & Nitrate) (mg / l)	8.2	6.1	7.3	5.5
12.	Ammonical Nitrogen (mg/l)	1.9	2.0	2.2	2.0
13.	Kjeldahl Nitrogen (mg / l)	2.5	3.2	3.5	3.0
14.	Sulphate (mg / l)	17.8	18.0	26.0	34.3
15.	Phosphate (mg / l)	0.02	1.0	1.1	1.2
16.	Dissolved Oxygen (mg / l)	7.2	7.5	9.7	10.0
17.	Biochemical Oxygen Demand (mg / l)	8.4	6.6	12.0	10.2
18.	Chemical Oxygen Demand (mg / l)	15.5	11.0	20.0	18.0
19.	Total Coliform (MPN / 100 ml)	140	280	220	280
20.	Faecal Coliform (MPN / 100 ml)	60	110	94	110

Table – 5

WATER QUALITY OF THADLASKEIN LAKE

SL. NO	PARAMETERS	JUNE '98	SEPT '98	DEC. '98	MAR. '99
1.	pH	7.4	8.2	8.0	7.5
2.	Conductivity (µmho / $cm^{2)}$	110.0	112.0	130.4	135.2
3.	Turbidity (NTU)	12.0	8.4	10.0	8.0
4.	Total Dissolved Solids (mg/l)	75.0	80.0	90.0	95.0
5.	Chloride (mg / l)	22.0	23.0	20.0	17.0
6.	Alkalinity (mg / l)	10.0	12.0	14.0	16.0
7.	Hardness (mg / l)	12.0	10.0	10.0	18.0
8.	Calcium (mg / l)	5.0	4.0	8.0	8.0
9.	Sodium (mg / l)	-	3.0	4.5	4.0
10.	Magnesium (mg / l)	-	3.4	4.0	2.4
11.	Nitrogen (Nitrite & Nitrate) (mg / l)	2.4	2.5	2.2	2.5
12.	Ammonical Nitrogen (mg/l)	0.6	1.0	0.8	0.9
13.	Kjeldahl Nitrogen (mg / l)	1.0	1.2	2.1	2.0
14.	Sulphate (mg / l)	7.0	6.0	5.0	8.0
15.	Phosphate (mg / l)	0.5	0.82	BDL*	0.9
16.	Dissolved Oxygen (mg / l)	7.0	6.7	8.0	8.2
17.	Biochemical Oxygen Demand (mg / l)	6.5	5.5	7.0	6.8
18.	Chemical Oxygen Demand (mg / l)	10.0	8.5	10.0	10.0
19.	Total Coliform (MPN / 100 ml)	40	33	27	43
20.	Faecal Coliform (MPN / 100 ml)	17	17	14	22

*** BDL: Below Detectable Limits.**

Table – 6

WATER QUALITY OF KYRHUHKHLA RIVER

SL. NO	PARAMETERS	JUNE '98	SEPT '98	DEC. '98	MAR. '99
1.	pH	4.3	3.6	2.5	2.7
2.	Conductivity (µmho / $cm^{2)}$	340.0	370.0	390.5	385.0
3.	Turbidity (NTU)	21.0	7.2	6.0	10.0
4.	Total Dissolved Solids (mg/l)	245.4	320.1	335.2	340.2
5.	Chloride (mg / l)	22.5	28.0	22.0	16.0
6.	Acidity (mg / l)	150.0	140.0	160.4	180.5
7.	Hardness (mg / l)	18.2	12.5	18.0	22.0
8.	Calcium (mg / l)	8.0	5.0	12.0	12.0
9.	Sodium (mg / l)	-	4.0	4.6	11.5
10.	Magnesium (mg / l)	-	4.0	3.9	2.4
11.	Nitrogen (Nitrite & Nitrate) (mg / l)	1.8	2.0	2.2	2.2
12.	Ammonical Nitrogen (mg/l)	0.28	0.35	0.5	0.65
13.	Kjeldahl Nitrogen (mg / l)	1.0	1.8	1.9	1.4
14.	Sulphate (mg / l)	158.0	133.0	140.4	133.0
15.	Phosphate (mg / l)	0.6	0.85	0.21	0.78
16.	Dissolved Oxygen (mg / l)	6.7	7.0	8.0	7.0
17.	Biochemical Oxygen Demand (mg / l)	4.5	7.8	12.0	10.5
18.	Chemical Oxygen Demand (mg / l)	10.8	12.0	18.5	18.0
19.	Total Coliform (MPN / 100 ml)	4	4	2	4
20.	Faecal Coliform (MPN / 100 ml)	0	0	0	0

Tables – 7

AIR QUALITY MONITORING UNDER PROJECT IN SOME DISTRICT HEADQUARTERS OF THE STATE

FROM 1st APRIL'98 TO 31st MARCH'99

SUSPENDED PARTICULATE MATTER

SL. NO.	Sampling Location	JUNE'98 ($\mu g/m^3$)	JAN'99 ($\mu g/m^3$)	FEB'99 ($\mu g/m^3$)
1.	Nongstoin, West Khasi Hills District	-	-	83.6
2.	Nongpoh, Ri Bhoi District	-	322.1	-
3.	Jowai, Jaintia Hills District	44.6	-	-
4.	Tura, West Garo Hills District	52.7	-	-
5.	Baghmara, South Garo Hills District	36.1	-	-

OXIDES OF NITROGEN

SL. NO.	Sampling Location	JUNE'98 ($\mu g/m^3$)	JAN'99 ($\mu g/m^3$)	FEB'99 ($\mu g/m^3$)
1.	Nongstoin, West Khasi Hills District	-	-	13.6
2.	Nongpoh, Ri Bhoi District	-	-	20.5
3.	Jowai, Jaintia Hills District	16.3	-	-
4.	Tura, West Garo Hills District	11.2	-	-
5.	Baghmara, South Garo Hills District	BDL*	-	-

SULPHUR DIOXIDE

SL. NO.	Sampling Location	JUNE'98 ($\mu g/m^3$)	JAN'99 ($\mu g/m^3$)	FEB'99 ($\mu g/m^3$)
1.	Nongstoin, West Khasi Hills District	-	-	BDL*
2.	Nongpoh, Ri Bhoi District	-	BDL	-
3.	Jowai, Jaintia Hills District	4.9	-	-
4.	Tura, West Garo Hills District	6.2	-	-
5.	Baghmara, South Garo Hills District	BDL	-	-

*** BDL: Below Detectable Limits**

Table – 8

AIR QUALITY MONITORING IN THE STATE CAPITAL, SHILLONG (UNDER PROJECT)

FROM 1st APRIL'98 TO 31st MARCH'99

SL. NO	Sampling Location	Suspended Particulate Matter ($\mu g/m^3$)		Oxides of Nitrogen ($\mu g/m^3$)		Sulphur Dioxide ($\mu g/m^3$)	
		APR '98	FEB '99	APR '98	FEB '99	APR '98	FEB '99
1.	Nongthymmai	-	328.3	-	43.3	-	22.0
2.	Dhankheti	284.7	-	32.3	-	23.9	-
3.	Barik	229.2	-	17.7	-	4.1	-
4.	Police Bazar	128.5	183.7	18.2	30.5	3.7	5.9
5.	Bara Bazar	74.0	135.9	6.0	-	BDL*	BDL
6.	Mawlai	122.5	208.3	16.5	-	11.5	9.8

*** BDL: Below Detectable Limits**

Table – 9

AIR QUALITY MONITORING IN SOME INDUSTRIAL AREAS/ESTATES (UNDER PROJECT)

FROM 1st APRIL'98 TO 31st MARCH'99

Sl No.	Sampling Location	Suspended Particulate Matter ($\mu g/m^3$)			Oxides of Nitrogen ($\mu g/m^3$)			Sulphur Dioxide ($\mu g/m^3$)		
		APR '98	JUN'98	FEB'99	APR '98	JUN'98	FEB'99	APR '98	JUN'98	FEB'99
1	Mawroh, Mawlai, Shillong, East Khasi Hills	46.9	-	70.3	4.3	-	12.5	BDL*	-	BDL
2	Barapani(Umiam), Ri-Bhoi District	-	92.0	146.4	-	20.6	22.5	-	7.8	4.9

*** BDL: Below Detectable Limits**

Table – 10

AIR QUALITY MONITORING IN A COAL MINING AREA

(UNDER PROJECT)

FROM 1st APRIL'98 TO 31st MARCH'99

SL. NO	Sampling Location	Suspended Particulate Matter ($\mu g/m^3$)		Oxides of Nitrogen ($\mu g/m^3$)		Sulphur Dioxide ($\mu g/m^3$)	
		JUL'98	FEB '99	JUL'98	FEB '99	JUL '98	FEB '99
1.	Khliehriat, Jaintia Hills Ditrict	26.7	50.0	4.4	15.4	BDL*	4.2

*** BDL: Below Detectable Limits.**

Table – 11

WATER QUALITY OF SELECTED WATER BODIES DURING 1998 – 1999 (UNDER PROJECT)

Sl. No.	Parameter	Lubha River, Jaintia Hills	Umshyrpi River, East Khasi Hills	Umkhrah River, East Khasi Hills
1.	pH	7.9	7.4	7.6
2.	Conductivity (µmho / cm^2)	158.0	290.0	360.0
3.	Turbidity (NTU)	0.8	8.0	20.0
4.	Total Dissolved Solids (mg / l)	132.2	200.4	279.2
5.	Chloride (mg / l)	6.0	21.0	47.0
6.	Hardness (mg / l)	120.0	66.0	90.0
7.	Alkalinity (mg / l)	30.0	26.0	50.0
8.	Calcium (mg / l)	64.0	28.0	64.0
9.	Sulphate (mg / l)	38.2	52.4	66.3
10.	Phosphate (mg / l)	BDL*	0.80	1.0
11.	NO_2 - N - mg/L	BDL	0.45	0.62
12.	Ammonia Nitrogen (mg/l)	0.2	4.5	7.2
13.	NO_3 - N - mg/L	5.1	12.5	14.5
14.	Dissolved Oxygen (mg / l)	9.6	2.9	NIL
15.	Biochemical Oxygen Demand (mg / l)	0.8	90.8	112.5
16.	Chemical Oxygen Demand (mg / l)	2.0	150.0	210.0
17.	Total Coliform (MPN / 100 ml)	180	1,10,000	2,00,000
18.	Faecal Coliform (MPN / 100 ml)	94	60,000	1,30,000

Table – 12

WATER QUALITY OF RIVER UMSHYRPI DURING 1998 – 1999.

Sl. No.	Sampling Location	pH	DO (mg/L)	Con. (µmho / cm^2)	TDS (mg/L)	NO_2-N (mg/L)	NO_3-N (mg/L)	BOD (mg/L)	COD (mg/L)	TC (MPN / 100 ml)	FC (MPN / 100 ml)
1.	Risa Colony	7.3	10.5	39.0	25.3	0.04	0.10	8.5	15.6	34	18
2.	Dhankheti.	7.1	3.3	136.0	120.5	0.08	1.40	20.8	70.5	63,000	27,000
3.	Malki.	7.4	3.2	210.0	167.0	2.00	3.50	40.0	58.8	1,00,000	70,000
4.	Crinoline.	7.5	5.0	145.0	120.0	0.85	1.80	30.0	84.0	80,000	42,000
5.	Laban.	7.5	5.3	147.0	115.6	1.00	2.60	90.0	156.0	120,000	94,000
6.	Idgah.	5.3	5.0	239.0	192.5	1.80	3.00	40.9	99.6	1,80,000	100,000
7.	Kench`s Trace.	7.6	4.8	244.0	215.0	2.10	4.00	50.0	80.5	195,000	1,10,000
8.	Rilbong.	7.8	5.6	184.0	150.6	1.00	2.50	63.0	97.4	94,000	43,000
9.	Umshyrpi Bridge.	7.5	5.7	198.0	165.8	1.20	2.70	130.8	172.0	2,00,000	1,20,000
10.	Mawprem.	7.9	6.2	235.0	180.5	1.40	3.00	152.1	291.9	240,000	1,54,000

Table – 13

WATER QUALITY OF STREAMS JOINING RIVER UMSHYRPI DURING 1998 – 1999.

Sl. No.	Sampling Location	pH	DO (mg/L)	Con. (µmho / cm^2)	TDS (mg/L)	NO_2-N (mg/L)	NO_3-N (mg/L)	BOD (mg/L)	COD (mg/L)	TC (MPN / 100 ml)	FC (MPN / 100 ml)
1.	Motinagar Stream	7.1	6.9	50.0	35.5	0.05	0.08	20.0	31.5	70	27
2.	Dhankheti Stream	7.2	1.3	172.0	145.6	0.10	1.50	28.0	53.8	54,000	23,000
3.	Malki Stream	7.1	4.5	190.0	155.8	1.00	4.50	30.0	78.4	50,000	27,000
4.	Wah Risa Stream	7.6	9.0	50.0	35.5	BDL*	1.00	0.5	2.0	10	2
5.	Umkynrud Stream	7.2	3.6	136.0	115.8	0.08	2.00	7.0	15.8	94,000	54,000
6.	Wah Sohklar Stream	7.5	3.8	159.0	120.0	0.05	1.50	60.0	94.0	23,000	15,000
7.	Umjasai Stream	7.6	6.0	144.0	115.5	0.10	1.20	50.0	78.4	97,000	26,000

*** BDL: Below Detectable Limits.**

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